

SOFTWARE FROM BETASOFT

GAMES MASTER FOR THE SAM COUPE:

At last YOU can create stunning games and demos for the Coupe, with fast, smooth, animated sprites, complex sound effects, missiles, platforms, lifts, detailed backgrounds etc. No programming expertise required! Most of a game's design is specified by the menu-driven editor, which lets you edit graphics, animation, movement, sprite collision actions, sound effects, masking, control keys etc. A simple but very fast compiled language controls some features. A complex demo with animated bouncing sprites passing over and under each other, in front of a background, can be written with just a few commands to start the sprites off. (Once started, the sprites can act by themselves.) The editor produces stand-alone ROM-independent CODE programs that are free from any copyright restrictions - so you can sell your masterpiece! Impressive demonstration programs and an extensive sprite library are included to get you started. Backgrounds and sprites can also be grabbed from any Mode 4 screen and edited.

SIX SPRITE PLANES PLUS BACKGROUND

BIG SPRITES - UP TO A THIRD OF THE SCREEN AREA

TRUE COLLISION DETECTION ON SPRITE EDGE

SMOOTH, FAST PIXEL MOVEMENT OVER 100 ON-SCREEN SPRITES

POWERFUL EASY TO USE EDITOR COMPILED CONTROL LANGUAGE

COMPLEX MOVEMENT PATTERNS AND ANIMATION SEQUENCES

STEREO SPRITE-FOLLOWING SOUND EFFECTS

Written by Dr Andy Wright, author of the Sam ROM, MASTERDOS and MASTERBASIC, the program works with 256K or 512K RAM and ROM 2.0 and above. A comprehensive manual is included.

GAMES MASTER COSTS JUST £24.99 INCLUSIVE OF POSTAGE AND PACKING (ADD £1 IF OUTSIDE EUROPE). SPECIAL PRICE TO INDIG MEMBERS: £22.50 (QUOTE MEMBERSHIP NUMBER)

NEW !! Secrets of the SAM ROM revealed! The complete ROM 3 source listing on disk, extensively commented by the programmer, Andy Wright. Addresses and memory contents are included to make comparison with the actual ROM easy. The viewing program lets you move lightning-fast through the listing with various step sizes, perform searches, or list any part to a printer or (with MasterDOS) a disk file. A must for the serious SAM user! Just £9.95.

FILE MANAGER - The flexible file program. Files up to 780K. Requires MasterDOS and MasterBasic v1.7 or later (updates are free if you return your original disk. Enclose an SAE if you're not buying anything.)

MasterDOS - The DOS for the serious user. Faster, easier to use and more reliable than SAMDOS. Now available EXCLUSIVELY from BETASOFT. Offers RAMdisk and clock/calendar support, subdirectories, BACKUP, serial and random access files, multi-sector READ and WRITE AT, and much more! £15.99.

MasterBASIC - The much-praised SAM Basic extension adds many new commands for graphics, sound, printing, data-handling, improving DOS, searching and editing programs, etc. £15.99.

STILL AVAILABLE: Beta DOS for the PLUS D. More files per disk, much faster, random-access files, file compression, BACKUP and many other features. Fully compatible with existing disks and files. Only £9.95. BETA BASIC for the Spectrum (48K/128K/+2) adds over 100 new commands and functions to Spectrum Basic. Versions available for Discipline/D, Discovery, or Tapa/Microdrive. A classic for just £15.95!

Prices include P & P. Make cheques and postal orders payable to:
BETASOFT, 24 WYCHE AVENUE, KINGS HEATH, BIRMINGHAM, B14 6LQ

Vol.6 - No 3.

November 1992.

FORMAT

FOR SPECTRUM AND SAM USERS
(Incorporating Sinclair & Sam Computing)



Of All The Mags
In All The World...

£1.25 [UK R.R.P.]

ISSN 0963-8598.

CONTENTS

Vol.6 No 3.

November 1992.

SPECTRUM PRODUCTS

- +2A MOD KIT** - Converts a +2A into a standard +2. This allows the PLUS D; DISCiPLE and INTERFACE 1 to operate properly. Gives you two expansion ports. Includes ROM, two port FIXER2 and full fitting instructions/manual updates. £18.50
- THE FIXIT** - Converts the +3 and +2A expansion port so that some 48K add-ons will work. £9.50
- VTX5000** - V23 direct connect modem with viewdata software in ROM. **SPECIAL OFFER** + 48K or grey +2 version - £11. +2A/+3 (includes FIXIT) - £20.50 - BOTH OFFERS INCLUDE PD TAPE.
- PD TAPE 01** - Spectrum comms software for VTX5000 and RS232s. £1
- USER-USER** - Two VTX5000s (48K) with a tape containing software to allow direct transfer of software between users via the phone. (Tape easily cloned for other user). £30
- µ SLOT** - Two port adaptor for any Spectrum. One facing up the other back. £3
- MEMBRANES** - Keyboard membranes at keen prices. Full instructions. 48K Rubber type machine - £4.50, 48K+/128K - £7.50
- +3 CP/M+ and MALLARD BASIC** - Written by Locomotive Software. Includes 3" disc with software, utilities and a very detailed manual. £29
- +3 PD DISC** - CP/M and +3 software, includes 706K B: drive formatter, and 203K A: drive formatter. £2

*** NOW AVAILABLE - STAR PRINTERS - PHONE FOR PRICES ***

SAM PRODUCTS

- PRO-DOS** - Allows you to run CP/M 2.2 programs on SAM. Comes on two discs with a comprehensive 68 page manual. **SPECIAL OFFER** £27
- PRO-DOS PDI** - A collection of PD programs including a wordprocessor, Spreadsheet, etc. Over 700K of software. (includes tutorial) Just £1 if ordered with PRO-DOS, otherwise £2.
- The P.A.W.** - The Professional Adventure Writing system from Gilsoft. For use under PRO-DOS. Includes two manuals and all files for writing text adventures. **SPECIAL OFFER** £17.50
- SAMPLIFIER** - Stereo Amp powered from SAM. Drives speakers or phones. Plugs into light-pen socket. Amplifier alone £20, with speakers £25, with headphones £23

Please allow 28 days for delivery. All prices include UK P&P. Overseas orders: add £2 on modems; PRO-DOS or +3 CP/M, £1 on other items.

B.G. SERVICES.

64, Roebuck Road, Chessington, Surrey. KT9 1JX. Tel: 081 397 0763

News On 4.....	4
The Editor Speaks.....	7
Short Spot.....	9
+2a/+3 Soft ROM.....	15
DISCiPLE Inhibit Patch.....	17
SAM Goes To The Fair.....	19
Clip Art Reviewed.....	23
Mail Merge On SAM.....	25
Small Ads.....	28
Machine Code Without Tears	14.29
Writing For Format.....	32
Your Letters.....	33
FORMAT Readers Service	

THIS MONTHS ADVERTISERS:-

SETASOFT	Back Cover
B.G.SERVICES	2
FRED PUBLISHING	24
GLENCO SOFTWARE	22
ORB SOFTWARE	14
REVELATION SOFTWARE	8
S.D.SOFTWARE	6
STEVE'S SOFTWARE	36
TEACHER'S PET SOFTWARE	14

FORMAT ISSN 0963-8598.
(C)Copyright 1992 FORMAT PUBLICATIONS. All Rights Reserved.

No part of this publication may be reproduced, in any form, without the written consent of the publisher. FORMAT readers may copy program material only for their own personal use. While every effort is made to ensure accuracy in FORMAT the publisher will not be held liable for any errors or omissions.

FORMAT is published by **FORMAT PUBLICATIONS**,
34, Bourton Road, Gloucester, GL4 0LE, England.
Telephone 0452-412572. Fax 0452-380890.

Printed by D.S.LITHO. Gloucester. Telephone 0452-523198.

NEWS ON 4

WEST COAST ARE GO

The final steps are now being taken so that, by the time you read this, SAM and all its extras, will be back in production.

Because most of the parts for the SAM have been stored in and around the Swansea area West Coast will be renting a unit just outside Swansea in order to bring the stock together and arrange assembly.

West Coast Computers are planning a big direct mail-shot during November to relaunch the Coupe, with a magazine advertising campaign planned for early 1993.

At first products will be manufactured in batches according to the demand received so some items may take a little longer to become available than others.

SPREADSHEETS COMING

Revelation Software have announced plans for a new spreadsheet program for both the SAM and Spectrum which should be available before Christmas.

Written by Danish company Campton Software it will be the first fully machine coded spreadsheet for SAM. With all the features of many PC spreadsheets costing hundreds of pounds this release will be a welcome addition to many readers software collections.

Revelation say the features are the same for both versions of the program the only difference being the size of spreadsheet that can be produced on SAM is a lot larger. The program will probably cost £24.99 and will come with an extensive manual.

Watch FORMAT for a review very soon.

SPECTRUM DISC SOFTWARE

Revelation Software have also announced that it will launch a range of Spectrum software on PLUS D/ DISCIPLE disc in the new year.

The highly acclaimed ASTROBALL will be top of the first batch of releases which will all be priced at £7.95 including P&P. Other games are currently being sourced - so if you have written a Spectrum game why not send a review copy to Revelation. Revelation are of course looking for SAM games as well.

BLUE ALPHA RETURNS

Blue Alpha Electronics have returned to the SAM scene with a relaunch of the Hardware Development Kit which had been marketed by SAMCO.

Adrian Parker plans to continue the successful formula which had been running in conjunction with the SAMCO Newdisc. The kit, priced at £37.50, includes a disc containing re-edited versions of all the articles published on the newdisc plus a few other items. Adrian will also be starting a hardware series in FORMAT very soon.

Order for the kit should be sent to Blue Alpha Electronics, Ynysforgan Farm, Morriston, Swansea, SA6 6QL.

Blue Alpha will also be starting a repair service as soon as a workshop can be found. As well as repairing SAM and its interfaces they will also be doing PLUS Ds and DISCIPLES. More details on this as soon as we get them.

HOBBIT STILL NOT HERE

Reports of the imminent arrival of the Spectrum clone from Russia called the Hobbit (see FORMAT 5/12) seem to have been exaggerated.

Several readers who contacted the importers claim that stocks have still not arrived and no date can be given as to when the Hobbit will be available. More news if we get it.

SEGA & NINTENDO SALES DROP

The writing is on the wall for the games console in the own home market

as dealers in Japan cut prices by up to 50% to clear stocks.

Nintendo's SNES package has been cut by at least 30% in order to obtain sales while the Sega Master system is being sold at around half its recommended retail price.

Sales have fallen substantially from their high of two years ago as the Japanese public look elsewhere for their entertainment. Some sources in Japan cite the high price of cartridges as being the main cause for the fall in sales while others point to the rise in hand-helds as being the main cause.

FRED SIGNS NOASIS

Fred Publishing has taken over the distribution of Nossia Software. Items, like their excellent SAM PRINT program will now be available both to retail and trade only via Fred Publishing.

Collin McDonald, boss of the Dundee based company, told FORMAT "Expanding, by whatever route, will enable me to give better service to customers. Nossia found it to expensive to deal in small orders but combined with Fred's growing range for SAM things will be much better."

Fred Publishing also have several new SAM games coming out this month.

SUGAR LOOKS TO BUY-BACK

Alan Sugar seems set on a course to buy back the shares of AMSTRAD plc which were floated on the stock market in 1980. Sugar already own 35.4% of the company which he founded but has seen those shares fall from a peak of £2.33 in 1988 to a low of only 20 pence in September this year.

City pundits are predicting a loss of between 70 and 80 million pounds for Amstrad's current financial year. Most of this loss is blamed on Amstrad's falling share of the PC market over the last 18 months.

It is believed that share-holders will be offered around 30 pence per share if Sugar decides to take the company private again. The move would enable the company to be totally restructured with, almost certainly,

the computer division being split off and possibly sold.

Amstrad, along with other companies like Richard Branson's Virgin Group, feel that they have suffered at the hands of big city investors who they feel do not understand the modern Hi-Tech market. With the whole company under his control again (and purchased at a bargain price at that) Sugar would be freed from the constraints that a full Stock Market Listing impose upon him.

EVEN MORE GAMES ON TV

Channel 4 have GamesMaster, Sky are going daily next year with a show called Game Zone, and now BBC2 are getting in on the act.

From January the BBC2 magazine style show 100%, part of their DEFIL line-up, will feature a games section on a regular basis.

Soon it will be wall to wall games... The mind boggles.

SANTECH SHUTS

In a surprise move Bruce Gordon has shut down his company Sam Technology. Bruce felt that the overheads on his Swansea based operation were far too high to continue trading in the current climate so he decided to close the company before it went too deeply into debt.

Bruce now plans to work as a freelance design consultant but has agreed to assist West Coast Computer by providing technical advice on SAM's ASIC.

News Credits: Bill Franks, J.Dart.

URGENT we need your news. Anything you think other people should know about. Items printed earn contributor 3 month extra subscription (please claim when renewing).



S.D. Software



SPECTRA-EMULATED SOFTWARE

SPECMAKER The simplest Spectrum emulator for your SAM. 1000s of 48K programs work without the need for any conversion. Most other programs need only minor changes. All the extra SAM keys work in Spectrum mode. Uses SAM's parallel printer port and up to 360K of SAM memory as a RAMDISK. PLUS D and all OPUS disks* can be loaded into SPECMAKER and saved to SAM disk. Can now convert files between Messenger & SPECMAKER format and so save on valuable disk space. Supplied on 3.5" disk *Master Dos & Master basic required for single density OPUS

PC-Suite From the author of SPECMAKER S.D. Software brings you PC-SUITE. Now you can transfer your IBM data files by reading and writing IBM disks on your Sam. PC-Suite will let you format IBM disks on Sam. Write Sam basic programs on your PC/AT. Use PC-Suite to copy Sam data files to PC disk and print them on a high quality laser printer. Many more uses.

nb: Not a PC emulator.

UNIDOS Version 2 of the incredible new DOS from Steve Warr for the PLUS D and DISCIPLE. Same DOS file for both systems. Random files. Sub directories. Hundreds of files on one disk. Hidden files. Protected files. Copy files of any length. Incredibly versatile screen dump routines. Error trapping. Many more features. Compatible with all Spectrums. Over 20 programs now included on the disk. * +2A/+3 restricted to 48K mode.

SPECFILE+ Now a Spectrum data filing program that never gets out of date. Specfile+ holds a massive 20K of data and by using data compression makes it seem like much more. Very fast CASE selective and complex searches. Designed to be added to so it grows as you do. This program is a must have for any one with data to hold.

INDUG PRICES		NON MEMBERS	
Specfile+	£ 9.95	£12.95	
UNIDOS	£19.95	£25.95	
Createfile Manual	£ 5.50	£ 6.50	
Specmaker	£ 9.95	£12.95	
Specmaker Upgrade	£ 6.50	£ 8.00	
PC Suite	£18.95	£25.95	
IBU* /SAMIBU	£ 3.90	£ 4.90	
DBU*	£ 4.00	£ 5.50	
File Converter*	£ 4.50	£ 5.30	
Hackers Workbench*	£ 8.50	£ 9.90	

* GDOS programs still available *

PLEASE Add £0.50 Postage
(£1.20 OUTSIDE UK)

DO NOT FORGET YOUR INDUG
MEMBERSHIP NUMBER

Don't forget to say if ordering for PLUS D or DISCIPLE and the size of disk required. (PLUS D, 3.5 inch 80T will be sent otherwise)

S.D. Software, 70 Rainhill Road, Barnoldswick, Lancashire, England, BB9 6AB.



Well it looks, at long last, that SAM is safe. As I write this the receiver is preparing a contract for signing so we are only days away from completion. It has been a long haul. I, Jenny, the guys at West Coast and many others have been putting in long hours since SAMCO collapsed and there has been a lot of frustration at the delays. Still, one day soon I will be free to tell the whole story. In the meantime ignore the rumours about a new ASIC - there are no plans for replacing the existing one in the near future.

On the subject of SAM, it has come to our attention that an electronics company have managed somehow to obtain a quantity of SAM power supplies. BE WARNED - these are not official units, they have never been through SAMCO's soak test and we are not sure where they came from. All official supplies issued prior to the collapse of SAMCO have had their serial numbers listed while new units being shipped now are clearly marked both inside and out. You are strongly advised to treat any power unit not purchased from SAMCO FORMAT or West Coast with suspicion.

Meanwhile Revelation Software have asked me to eat a little humble pie because I've been arranging their printing and I haven't worked fast enough. The manual for The Secretary is now at the printers so, by the time you read this they should have received it and sent out your software. Sorry if you have had to wait a little longer than expected for your copy of The Secretary, but it is worth waiting for.

From your phone calls and letters I know many of you like to see articles

by Carol Brooksbank, so I make no apology for printing so much of her work this month. I'm just trying to catch up a little (only a little) on the backlog of excellent articles this most prolific lady keeps sending me. At this rate I just might get up to date - around 1996. Oh well, you can't have too much of a good thing.

Now a little bit of advanced warning. I've been summonsed to the Crown Court. No, they haven't finally caught up with me (at least I don't think they have) but for two weeks from Tuesday 8th December I am being a good citizen and serving on the Jury panel. Jenny will still be in the office from 10.45 to 2.30 each day but you will need to save any technical problems for the evening or until I get back. I thought I would mention it this month as, with the Christmas post rush starting earlier each year, December's FORMAT may not reach some of you before that date.

Next months FORMAT will be the Christmas issue (don't they come round quick) so I'm on the lookout for any seasonal items. You know, programs; jokes; graphics; cartoons; anything with a Christmas feel. But I need them yesterday as I have already started putting the issue together.

Finally, a plea from poor overworked (and she claims underpaid) Jenny. The special offer leaflet we sent out last month has produced such an avalanche of orders she is having difficulty in keeping up. Please be patient, everything will get out to you soon (provided she doesn't go on strike for more money).

Bob Branchley, Editor.

The Secretary

The NEW word-processor for the SAM Coupé

AVAILABLE NOW

Yes, at long last, a word-processor that does justice to the SAM range of computers. *The Secretary* is advanced, yet very easy to use. The program was originally planned for release by SAMCO as one of their flag-ship products. See for yourself the power and versatility of *The Secretary* and you will soon wonder how you managed without it. Available now at £14-95

SPECIAL INDUG PRICE ONLY £12-95

Also available:-

	R.R.P.	INDUG PRICE
◆ SOUND MACHINE	£14-95	£12-95
◆ COMET ASSEMBLER	£29-95	£24-95
◆ ASTROBALL	£9-95	£8-95
◆ MANIC MINER	£9-95	£8-95
◆ BATZ N BALLS	£9-95	£8-95
◆ VEGETABLE VACATION	£9-95	£8-95

MORE NEW RELEASES COMING SOON

- *All prices include UK postage and packing. Overseas add £1 surface, £2 airmail
- *Payment by UK cheque, Eurocheque or PO. Payable to Revelation Software
- *Please quote Indug number on order if claiming discount
- *Send orders to:-

Revelation Software,
PO Box 114,
Exeter,
Devon,
EX4 1YY.

**Revelation
Software**

SHORT SPOT

Edited By:- John Wase.

Blimey, it's "Short Spot" time already. Here we are, with SAM's future once again assured, after another difficult time. Because of the problems close at hand, we perhaps fail to notice what's going on in the wicked world outside. Well, I can tell you, things are once again on the move. Like hard discs are down in price and getting harder, very much bigger, and smaller. Yeras - bigger capacity (200 odd Megabyte is not uncommon now), and down to 2.5" for yer notebook. Intel, the chip maker, have cut the price of 486's, effectively running down the 386 market (which chip cloners AMD and Cyrix are in), have introduced clock-doubling and will have the P5 with us shortly. RISC chips, Motorolas' chips, fish-and-chips! It all adds up to fast, complex, incomprehensible, incomprehensible machines; all shifting graphics around at an astonishing rate of knots, all needing more and more code, itself more and more tortuous. Who uses "Word for Windows" here? What a palaver to write a little letter!

It's therefore refreshing to find a system like the Spectrum or SAM, which one can still understand, which one can program reasonably concisely, with an exact knowledge of the effects which one's commands will have, and the certainty that one can get the thing to do exactly what one wants! Long may they continue!

Now, a program from Alan Cox, which gives you an underlined character set. Once you have got the message, it's all quite clear. Take a copy of the character set and POKE 255 into every eighth byte. The original program used code to create the new set; there is a second version (underline2) in Basic, which is easier to modify if, for example, you want underlined spaces.

In this case, just change Line 9010 to FOR n=8 TO 767..... Now here's silly problem number 1 for this month. Alan thought he would be clever and produce a SAM version, so he tried on SAM to copy its character set elsewhere and then alter the value of CHARS (SVAR 566 at &5C36), but then he lost all the characters! Clearly SAM needs to do clever things in order to handle CSIZE, for instance, but poor Alan can't exactly fathom what's going on. Can anyone write a program to simulate the Spectrum one, but on SAM?

Anyway, here's underlined:-

```
1 REM A PROGRAM TO UNDERLINE
2 REM by D CRABTREE
3 REM Popular Computing Weekly
4 REM 8-12 March 1987
5 REM TYPE IN PROGRAM AND RUN IT
6 REM THEN DELETE LINES 1 TO 60
8 REM CALL PROGRAM WITH
9 REM GOSUB 9999
10 REM RETURN TO NORMAL WITH
11 REM GOSUB 9998
12 REM
15 CLEAR 64725
20 LET tot=0
30 FOR f=65494 TO 65534: READ a: POK
  E f,a: LET tot=tot+a: NEXT f
40 DATA 1,255,2,17,214,252,33,0,61,2
  37,176,33,214,251,34,54,92,175,1,
  96,0,33,221,252,62,255,119,125,19
  8,8,111,124,206,0,103,11,120,177,
  32,240,201
50 IF tot<>4796 THEN PRINT "Error i
  n data"
60 STOP
9998 POKE 23606,0: POKE 23607,60: RETU
  RN
9999 RANDOMIZE USR 65494: RETURN
```

and this is underline2:-

```
10 REM BASIC UNDERLINE PROGRAM
20 REM BASED ON THE IDEA IN D CRABTR
  EE'S PROGRAM
30 REM by ADC
```

```

40 REM RUN PROGRAM TO SET UP UNDERLI
NED CHARACTER SET
50 REM GOSUB und for underlined char
acters
60 REM GOSUB norm for normal charact
ers (except for UDGs)
9000 LET und=9100: LET norm=9200
9010 CLS : FOR n=0 TO 767 STEP 8
9020 LET x=256+PEEK 23606+256*PEEK 236
07
9030 FOR m=0 TO 7
9040 PRINT AT 0,0:767-n-m;" to go "
9050 POKE (61440+n+m),PEEK (x+n+m)
9060 NEXT m
9070 POKE (61440+n+7),255
9080 NEXT n
9090 STOP
9100 POKE 23607,239: RETURN
9200 POKE 23607,60: RETURN

```

Next, a nice quickie from Roy Burford of Stourbridge, West Midlands. He mentions that an Indug member friend pointed out some Spectrum pokes (few of which worked) in "Micro Mart". These included pokes to change the 128k's start and increment line numbers in its renumber routine - again not correct! Some detective work revealed the following:-

Addresses 23444/5 contain the low/high bytes of the start of the first line number.

Addresses 23446/7 contain the low/high bytes of the increment or step between lines.

The machine refuses to renumber if the start/increment values are incompatible with the highest line number available for the Spectrum (9999), and is clearly program-length dependent. If you can restrict values to a range of 1 to 255, then simply poke 23444 with the start line number required and poke 23446 with the increment required prior to renumbering. Roy mentions that his is an Investronica Spectrum - the Spectrum 128k machine, and this information makes the machine's renumber routine much more useful when Roy needs other than the preset 10/10 values. Silly Puzzle number 2, folks. Roy thought that the Renumber code would be vomited from the ROM into the

the printer buffer, along with the addresses mentioned above (which are the accompanying variables, and clearly these are in the buffer), but he can't confirm this. Anyone know where this code lives?

Now to turn to Chris Dodd of Thornbury, Bristol, and his SAM disc for a few more of his little bits and pieces - all very straightforward. Last time I looked at this, my SAM was already booted. This time I booted it up from Chris's disc. On my screen now is a big yellow sun, with a smile and a pair of sunglasses. At the bottom is the legend "Don't worry; be happy". Nice one, Chris: I feel more cheerful already.

So here's a nice piece for beginners. It'll work as well on a Spectrum as a SAM, and it demonstrates how to print slowly to the screen. Here's Chris's "slowprint"

```

10 INPUT "MESSAGE:- ";a$
20 CLS
30 FOR n=1 TO LEN a$
40 PRINT a$(n);
41 PAUSE 5
50 NEXT n
60 GOTO 1

```

You remember last month's "sunset"? Of course you do. A picture of a nice setting sun with purplish rays extending into the dusk. Alan Cox felt it lacked that sinking feeling - you know "...and the sun set slowly in the West as the Spectrum galloped towards us in the dwindling purple light..." So here's a sinking sun for SAM from Alan. Who's going to combine the two, now?

```

20 PALETTE 14,12 LINE 50
30 PALETTE 9,14 LINE 50
40 PAPER 9: PEN 14: BORDER 9: CLS
50 CIRCLE 127,80,30
70 FILL PEN 14, 100, 80
80 FOR i=1 TO 60
90 SCROLL 4
100 NEXT i
9998 STOP
9999 SAVE OVER "sunset"

```

Next from Chris is his "c-cuve"

program. Although sent on a SAM disc, this one is again suitable for the Spectrum with minimal alterations to the PLOT and DRAW routines. The program suggests inputting values from zero to 14, but nothing of interest happens much before 8.

```

10 MODE 1
20 INPUT "depth (0 to 14)";n: PRINT
n
30 DIM a(n): DIM b(n): DIM c(n): DI
M d(n)
40 PLOT 64,32
50 LET x1=64: LET y1=32: LET x2=192
: LET y2=32
60 GOSUB 80
70 STOP
80 IF n=0 THEN DRAW x2-x1,y2-y1: RE
TURN
90 LET x3=(y1+x1-y2+x2)/2: LET y3=(
y1-x1+y2+x2)/2
100 LET a(n)=x2: LET b(n)=y2: LET c(
n)=x3: LET d(n)=y3
110 LET x2=x3: LET y2=y3
120 LET n=n-1: GOSUB 80: LET n=n+1
130 LET x1=c(n): LET y1=d(n): LET x2
=a(n): LET y2=b(n)
140 LET n=n-1: GOSUB 80: LET n=n+1
150 RETURN

```

Next, while we're dealing with SAM, we have a little tip from Bob Bates, of Burton Joyce, Nottingham. Bob's been using the LOCN function of Master Basic to locate occurrences of a string in memory. LOCN was built into a loop, as described in the MasterBasic manual. Generally, this is fine, but there is a small problem (of which Dr. Wright is aware), for the LOCN command over-runs the top limit set by the second variable in the command, n, by an amount which increases in proportion to n. For example:-

```
LET START=LOCN (START+1,n,tar$)
```

where the top limit for LOCN is given by START+1*n. This can cause problems by, for instance, finding the target string outside the range of memory you intended searching. Worse still, it can give an "OUT OF MEMORY" error if you are working near the top of memory.

Bob has found a fix. Merely put an extra EXIT condition in the LOOP immediately after the EXIT IF START>x where x is the actual top limit for LOCN. Many thanks, Bob.

Back to Alan Cox again, for a little offering - yet another version of the "gasket" program. The interesting feature of this one, though, is that it achieves its results by rubbing out unwanted lines, rather than drawing in wanted ones. The program is suitable both for SAM and Spectrum. Here it is...

```

1 REM another gasket
2 REM by Alan Cox
3 REM SAM users may like to try re
placing INVERSE 1 in lines 2010
and 2020 with PEN z
4 LET p=4
10 FOR m=0 TO 128 STEP p
20 PLOT 127-m*(m=128),150-m
30 DRAW 2*m-(m=128),0
35 DRAW -127+m-(m=128),-127+m-(m=12
8)
40 NEXT m
45 FOR m=0 TO 127 STEP p
50 PLOT 127-m,150-m
60 DRAW 128-m,-128+m
70 NEXT m
120 PRINT #0, AT 0,0;"Press any key"
130 PAUSE 0: PRINT #0, AT 0,0;"
"
200 FOR z=4 TO 1 STEP -1
210 LET zz=128/(2^z)
220 FOR q=0 TO 2^z-2
230 FOR r=1 TO 2^z-1-q
250 GOSUB 2000
280 NEXT r
290 NEXT q
300 NEXT z
1999 STOP
2005 FOR y=1 TO zz-1
2010 PLOT INVERSE 1;-y+2*r*zz+q*zz,22
+y*q*zz
2020 DRAW INVERSE 1;2*(y-1),0
2030 NEXT y
2040 RETURN
9998 STOP
9999 SAVE "gasket3"

```

The whole thing is rather neat; bigger and bigger triangles appear. A useful principle, Alan, and one which I'm sure has lots of applications.

Mr M.O'Connell of Birmingham, mentions that a couple of errors have crept into the tips and programs of his that I printed in the August issue of FORMAT. In the digitized speech program, line 9830 should read:-

```
9830 PRINT "LENGTH OF SPEECH DATA:";LE
NGTH:" ";#1;AT 0,0
;"RECORD/PLAY SPEED:";SPEED;"
```

and not as printed in FORMAT.

In the tip to make the computer print something other than "PROGRAM : name" when loading programs from tape, Mr O'Connell tells us that something is wrong. Each CHR\$ command represents one character in the filename. The computer cannot use \$\$ as a filename: it's too long. For instance:-

```
10 LET SS=""
20 LET SS=SS+CHR$ 22 + CHR$ 1 + CHR$
+ CHR$ 219 + CHR$ 219 + CHR$ 23
```

SAVE \$\$ LINE xxx

Mr O'Connell says that if you read all these character strings, the keywords will give:-

"AT 1,0 FLASH LOAD TAB"

and this accounts for six characters out of the maximum of ten permissible in a filename. So that when the program reloads, you'll merely get:-

"FLASH LOAD"

on your screen. Anyone know of any ways round this problem?

Next, Steve Parry-Thomas of Longton, Stoke-on-Trent. Steve writes about his "ddate" procedure in "Short Spot" Vol 5 No1. Here is his method of printing "Saturday 15th August"

PORT 49391 will give you the "Week day". Bits 0, 1 and 3 are read with "IN 49391 BAND 7". BAND 7 masks off the unwanted bits. The value you are left with should be any number 0 to 6. 0=Sunday; 1=Monday, etc.

The PORT is incremented by 1 every 24 hours. It MUST, however, be set first with "OUT 49391,x", where x is any value 0 to 6 as above, depending on the day you set it on. Here is the revised routine.

```
1000 DEF PROC ddate x,y
1005 DEFAULT x=0,y=0
1010 LOCAL day,month,year,wday
1015 LET day=VAL DATES( TO 2),month=V
AL DATES(4 TO 5),year=VAL DATES(
7 TO ),wday=(IN 49391 BAND BIN 0
0000111)+1
1016 ON wday: PRINT AT x,y: "Sunday "
:: PRINT AT x,y: "Monday " :: PRIN
T AT x,y: "Tuesday " :: PRINT AT x
,y: "Wednesday " :: PRINT AT x,y:
Thursday " :: PRINT AT x,y: "Frida
y " :: PRINT AT x,y: "Saturday "
1020 IF day=1 OR day=21 OR day=31 THE
N PRINT day;"at": ELSE IF day=
2 OR day =22 THEN PRINT day;"nd
": ELSE IF day=3 OR day =23 THE
N PRINT day;"rd": ELSE IF day >
3 OR day<31 THEN PRINT day;"th
"
1025 ON month: PRINT " January " :: PR
INT " February " :: PRINT " March
" :: PRINT " April " :: PRINT " Ma
y " :: PRINT " June " :: PRINT " J
uly " :: PRINT " August " :: PRINT
" September " :: PRINT " October
" :: PRINT " November " :: PRINT
" December "
1030 PRINT "19";year
1035 END PROC
```

Oh, and there's a little P.S., scribbled at the bottom. "P.S. The port, once set, will NOT FORGET what it has been set to, because of the SAMbus's battery power supply".

Many thanks, Steve.

The solution suggested by Ettrick Thomson of Airdburgh is very different from Steve's. Ettrick points out that one approach to the problem of assigning a numerical value to a card is to specify it by a string, c\$, with value one of "A","K","Q","J","10","9",.....,"2"; then:-

```
LET c=INSTR("2345678910JQKA",c$)
```

will give c the respective value

14,13,12,11,9,8,.....,1. The value 10 does not occur, and most values of c\$ other than those listed above will make c=0, except that "1" makes c=9 and "0" makes c=10. If this is going to be troublesome, then replace "10" with "T". Many thanks, Ettrick.

Finally, Ettrick also has a little SAM program about "Martin's Mapping". Martin's Mapping is so called because it is based on work by Barry Martin of the University of Aston in Birmingham; (three miles up the road from the University of Birmingham, where I work). The basic algorithms have appeared in various places under various names; this SAM version is improved - much improved - by colour. Most of the "mappings" are original, except for number 4 (G. Jackson), number 5 (K.-H.Becker and M. Dorfler) and number 10 (J.de Rivas). Users can invent their own mappings, but instructions for so doing would be rather long. I am sure that if anyone is particularly interested, Ettrick would help.

```
10 REM Martin's Mapping (v.7)
15 REM ETTRICK THOMSON
20 DIM m(8),p$(42)
30 LET m0=LENGTH(0,m(1)),p0=LENGTH(0
,p$)
40 FOR a=p0 TO p0+41
50 READ b: POKE a,b: NEXT a
60 DATA $21,0,0,$22,$68,$5C,$EF,$DB
,$DC,$25,$25,$DD,$3,$5D,$CB,$DF,0
,$DE,$3,$41,$43,$6,$42,0,$3,$D4,$25
,$DB,$25,$1C,$3,$C9,$1,$CA,$33,$21
,$21,$51,$22,$68,$5C,$C9
70 DPOKE p0+1,m0
80 INPUT "Choose mapping (1-11):";m
90 RESTORE 300+m
100 READ xrg,yrg,yos,m(5),m(4),imax,
m(8),m(7),m(6): LET xos=xrg/2-m(
6)
110 ON ERROR GOSUB 230
120 CLS #: POKE SVAR 50,1: PRINT AT
0,30:m
130 PALETTE 8,98: LET pn=6
140 FOR i=1 TO imax: LET pn=1+(pn MO
D 15): PEN ON
150 PRINT AT 0,0;i
160 FOR j=1 TO 1000
170 CALL p0
180 PLOT m(3),m(2)
190 NEXT j
```

```
200 NEXT i
210 ON ERROR STOP : PEN 7
220 POKE SVAR 50,0: STOP
230 IF error=30 THEN RETURN : ELSE P
OP : CONTINUE
301 DATA 183,165,82,0,0,30,2,13,23
302 DATA 153,136,55,0,0,44,2,13,31
303 DATA 153,136,55,22,1,39,2,13,31
304 DATA 200,160,75,0,0,17,-.55,-25,
7
305 DATA 500,375,175,0,0,22,17,-4,-1
57
306 DATA 180,136,57,0,0,17,17,11,5
307 DATA 200,140,60,0,0,18,31,13,2
308 DATA 250,200,85,0,0,20,6,-17,-40
309 DATA 50,35,15,0,0,20,1,0,9,1,01
310 DATA 250,200,85,0,0,13,33,11,22
311 DATA 180,150,70,0,0,15,22,11,33
```

Running time, even on SAM, is about half an hour. It has been speeded up a bit by using machine code for the inner loop (line 170). This is mostly "Floating-point Calculator code", which Ettrick prefers to call "Stack Operating Language" (SOL), and is equivalent to:-

```
LET z=m(4),m(4)=m(6)-m(5),
m(5)=z-SGN m(5)
+SQR ABS (m(8)*m(5)-m(7)),
m(2)=m(4)-m(5), m(3)=m(4)+m(5)
```

SOL normally makes use of a set of six "memories" in RAM, the first byte of which is determined by the value of the System Variable MEM, as set in the initialisation routine. The machine code changes MEM (line 70) so that the memories are the eight elements of the array m(): eight is the most you can have in SAM - unlike the Spectrum, where you could have 32; MEM is restored to its normal value before exit.

Ettrick also mentions that he could send me "Specmaker" files on a SAM disc. Frankly, these are not much use to me - I'd rather have the troublesome cassettes, even if they do sometimes give problems. As it is, each month I send Bob three discs. The first is a 5 $\frac{1}{4}$ " disc with programs on the DISCiPLE/PLUS D. The second is a 3 $\frac{1}{4}$ " disc with SAM programs on it. Specmaker is going to be a further problem to unravel back to the

original keywords for Bob to print, I suspect. Finally, the text comes on a 3½ IBM disc. Yes, I've succumbed; a laptop means that I can work in unlikely places. This year parts of "Short Spot" have been written in Wrexham, Manchester, Wolverhampton, Birmingham, London, Bangor, Cwm-y-glo, and Berwick! And, of course, Bishampton.

Just before I close, a couple of snippets. Firstly, I am grateful to some of our stalwarts for sending in so much material, but am concerned that so very little is coming in from other members. I can't put a column together out of nothing, and very few of this month's contributors have not appeared several times before. Come on, folks, lets have some new names - it don't matter how simple the item is - I want it. Send your offerings, please, to:-

John Wase,
Green Leys Cottage,
Bishampton,
Pershore,
Worce,
WR10 2LX.

And finally, Etrick, with the remark that he "knows I wear a number of hats, but didn't know this was one of them", encloses the following newspaper cutting.

John Wase, the District Inspector at Lowestoft Tax Office said: 'I am keen to see this programme expand. We will be visiting Beccles, Halesworth and Southwold in the near future. We want people to know that we're here to help. That's why we're taking the services of the tax office to them.'

Well, it isn't me, so there!

SPRITE MASTER

For The SAM Coupé

Enhance the appearance of your programs with this all-new graphics package.

Features:

- Fast and precise keyboard/mouse control.
- Powerful icon functions.
- Intelligent auto-magnifier.
- Saves sprite images in various formats

This program will enable you to create the graphics for any game or utility with surprising ease and efficiency

Ideal for use with: **BASIC MACHINE CODE GAMESMASTER SCADS**

Release Date 16th November. Price \$6.95

Make cheques/postal orders payable to:



Orb Software,
15, Tilbury Rise,
East Haddon,
Northamptonshire,
NN6 8BW.

Makes a
great
Christmas
gift!

Teachers Pet Software.



TEACHERS PET SOFTWARE
175 Craigton Road,
ABERDEEN,
Scotland,
ABI 7UA.

Teachers Pet Software have a great selection of Spectrum educational programs for use in schools or in the home.

There are now a number of these programs converted to use some of the advanced capabilities of the SAM.

Our very popular CLIP ART programs have been added to as well. We now have some 15 discs crammed with art suitable for use in Desk Top Publishing or Art Programs.

Why not write for an Order Form?

If you mention **FORMAT** when you place an order, we will be delighted to offer you one **FREE** program of your choice for every three purchased.

Soft ROM

+2a/+3

By:- Stephen Baines.

How many +2a and +3 owners wish that they, like their SAM counterparts could load in a "Normal" 48k ROM and use it like the SAM does. Well, it can be done. Very easily as well. The 128 Spectrums have an extra port that drive the extra memory, 7FFDh. The +2a and +3 have yet another extra port that can be used to TURN OFF the ROM's altogether, and page in RAM in it's place (This port is still available on +2a's with Brian Gaff's +2a mod kit, as that replaces ROM's, but the ports are controlled by logic arrays).

The principle is simple, to put a 'Normal' 48k ROM software copy into a page of memory, and then page that in, in place of the ROM. The ROM can be easily taped from a 48k spectrum by doing a SAVE "48K ROM" CODE 0,16384. Don't try saving a copy to DISCIPLER/PLUS D disc like that, you will get a copy of the shadow ROM/RAM instead.

There is more than one type of non-ROM layout available, one with pages 0,1,2 & 3 paged in at 0, 16384 (4000h), 32768 (8000h) and 49152 (C000h). The others are (4,5,6,7), (4,5,6,3) and (4,7,6,3). The former has no display memory in place, the latter has page 7 in place for display. The other two are the best choices. I chose the (4,5,6 & 3) system, to allow one bank of uncontented memory in place, and so the 48k ROM has to be loaded into page 4. To do this use the listing below:

Listing 1

```
1 CLEAR 29999
2 OUT 32765,20
3 LOAD **CODE 49152
4 OUT 32765,16
```

Play the tape of the 48k ROM, or even a copy of the Amstrad 48k ROM

(the point of which I shall explain later on), into the computer. What the routine does is slot page 4 into the top bank of memory, load the ROM into page 4, and then returns page 0 to the top bank.

The final stage is to use a routine to turn off the ROM's in the manner we need, the assembly code for which is:-

Listing 2(i)

```
DI LD BC,8189 ;(1FFDh)
OR 5
RES 1,A
OUT (C),A
EI
JP 0
```

This can be assembled at any address BELOW 32754 to stop it being paged out when changing RAM/ROM, and losing the next part of the program. If you don't have a compiler, then this program will load it into 30000, and is run byUSR 30000.

Listing 2(ii)

```
1 CLEAR 29999
2 FOR A=30000 TO 30013
3 READ B
4 POKE A,B
5 NEXT A
6 SAVE "CODE" CODE 30000,14
100 DATA 243,1,253,31,246,5,203,143,2
37> 121,251,195,0,0
```

Now, with the ROM paged into page 4, all we have to do is to run the code, and it will switch into a 48k spectrum, using:-

```
RANDOMIZE USR 30000
```

The tape copy of the Sinclair ROM will work, but really before you can use it in RAM it has to be protected from self-destruction. Unlike the SAM,

the +2a/+3 doesn't have a bit that protects it from self destruction, and so a couple of small parts of Soft-ROM that have to be changed to stop it writing on top of itself. Once in Sinclair basic, execute the command:-

```
POKE 3372,23:POKE 13308,170:
POKE 13309,4
```

This is enough to protect it from self destruction. The first poke stops the top line of the screen being moved up into the ROM area. The second two pokes prevent the "ROM" code from dumping an unwanted number over the code.

Re-save the ROM area as a complete file, that can be re-loaded into PAGE 4 whenever needed. It is now possible to change other aspects of the ROM.

NB: There is one problem with the method as it stands. The Soft-ROM is held in contended memory (all pages 4 held in contended memory (all pages 4 held in contended), this makes the software for loading and saving unreliable. I am working on a method of correcting this, by copying the loading routine into bank 4, and saving from there. This will mean an effective memory of less than 48k. The alternative method is to page in the loading routine in to the top bank of memory and executing it from there.

The fix to the NMI routine can be made with just one poke:-

```
POKE 109,40
```

Magic button devices can now be brought under your control by putting your routines address at 23728 and 23729.

The "cursor left movement bug" noted in Ian Logans book "Understanding Your Spectrum" can be corrected with:-

```
POKE 2611,24
```

The SCREENS bug is also easily sorted, try this expression before you correct it:-

```
PRINT AT 0,0;"*";"!"+SCREENS(0,0)
```

It should print *!, but instead it prints ***! This can easily be corrected with:-

```
POKE 9597,201
```

An error in the maths of the computer can also be corrected. Try typing in the calculator:-

```
1/2-.5
```

The answer, as you would expect, is 2.3283064E-9! This can be corrected with:-

```
POKE 12800,218
```

Lots of others can be worked out if you have a copy of "Complete Spectrum ROM Disassembly", unfortunately I don't, and so I can only give the well documented error corrections.

Two important points; you cannot use the Soft-ROM with the PLUS D, DISCIPLE or Microdrives, as once they are paged in they cannot be paged out, as there is no ROM for them to re-switch in. A correction for this could probably be worked out (eventually) using 2 pages for the Soft-ROM's, and swapping them. So, before you embark on this, please make sure that your disc interface is unplugged, else it will hang up until you reset the computer, and have lost the Soft-ROM. Also, before you run any of the programs, you MUST enter Amstrad 48 basic withUSR 0, and NOT "SPECTRUM" or the menu option. They will lock up the port.

The listing to correct all of these in one go is in listing 3.

Listing 3

```
1 CLEAR 29999
2 LOAD "CODE"CODE 30000
3 OUT 32765,20
4 LOAD "48k ROM"CODE 49152
5 READ AS
6 FOR A=1 TO LEN AS-1
7 POKE 54585+A-1,CODE AS(A)
8 NEXT A: POKE 54585+LEN AS-1,CODE
AS(LEN (AS)) 9 POKE 52524,23: POK
E 62460,170: POKE 62461,4: POKE 4
```

Turn to page 18.

INHIBIT PATCH

By:- Shimon Young.

A short story. It was the first week of my summer holidays last year, and I was quietly enjoying a lie in when I was disturbed from my rest by the ring of my bedroom phone. On answering the phone I was mildly surprised to find that the call was from New Zealand, it seems my small business has become truly international in terms of customers if not profit. The following conversation touched on several computing problems that Mr Barry Smith (for it was his name) had encountered. He has been struggling to persuade his +3, DISCIPLE & Multiface to get along with each other with limited success and needed some way of paging out the DISCIPLE without any access to BASIC.

Bruce Gordon had blessed the DISCIPLE with an inhibit switch for occasions like this but to avoid problems with the DISCIPLE being switched off during a disc operation, to operate this you need to execute an OUT (31),0 command from Basic as well as pressing in the button. The solution is to make an extra command accessible from the snapshot button. This program is a small extension to GDOS which does such an out command.

However it wasn't quite that simple. To make sure the OUT 31 stayed 0, I had to search for an interrupt in the DISCIPLE's RAM that was constantly re-outputting 31 and therefore ignoring the inhibit. A quick search with MONS tracked this down to 783 and I promptly diverted it.

```
1 REM Inhibit Patch By Shim Young.
5 CLEAR 39999
10 DEF FN H(X)=INT (X/256)
20 DEF FN L(X)=X-(256*INT (X/256))
30 LET AERO=946: REM 5837 with Compr
essor
40 LET CHK1=28683: LET CHK2=30900: L
ET CHK3=30969: LET CHK4=21162: LE
T CHK5=11052
```

```
50 IF AERO=946 THEN LET CHK1=28342:
LET CHK2=30900: LET CHK3=30076: L
ET CHK4=19974: LET CHK5=10711
60 LET ADD=40000: LET L=2
70 LET W=1: LET CK=0
80 READ B: IF B>=0 AND B<256 THEN PO
KE ADD,B: LET CK=W*B+CK: LET W=W+
1: LET ADD=ADD+1: GOTO 80
90 IF B=-1 THEN PRINT "All Finished.
Save CODE now""SAVE d1""Patch""
CODE 40000,104""and run with RA
NDOMIZE USR 40067": STOP
100 IF B<>CK THEN PRINT "ERROR IN LIN
E ":L=10+100: STOP
110 LET L=L+1: GOTO 70
120 DATA 201,0,24,13,71,58,FW L(AERO)
,FW H(AERO),167,120,40,2,211,31,1
95,96,4,237,121,87,6,223,62,17,CH
K1
130 DATA 211,31,237,120,203,87,40,12,
6,254,237,120,203,87,40,15,122,19
4,158,0,237,120,CHK2
140 DATA 203,87,40,250,175,211,31,24,
8,237,120,203,87,40,250,62,1,50,F
N L(AERO),FN H(AERO),201,219,CHK3
150 DATA 187,62,195,50,204,0,33,FW L(
AERO+1),FN H(AERO+1),34,205,0,33,
64,156,17,FW L(AERO-1),FN H(AERO-
1),1,67,0,237,CHK4
160 DATA 176,237,67,15,3,33,FW L(AERO
+3),FN H(AERO+3),34,18,3,211,187,
201,CHK5
170 DATA -1
```

Type in the BASIC and save the code using:-

```
SAVE d1"Patch" CODE 40000,104
```

and use a RANDOMIZE USR 40067 to patch the DOS. You may then wish to save the amended DOS by:-

```
SAVE d1"SysInhib"CODE 0,6656.
```

To use the patch you must first of all let the inhibit switch OUT. Then press the snapshot button. You may now press "1" to operate the patch. Once you let go of "1" the system will return to whatever program was

running. You will notice that the light on drive 2 will be on or if you only have one drive then the light will be off on that drive. Now push the inhibit button IN. The Disciple is now inhibited.

The DISCIPLE can be turned off and on in this mode just by flicking the inhibit switch. If you want to stop inhibiting and lock off the inhibit switch, let the inhibit switch OUT and press the snapshot button and this time press "X". This will put the switch port 31 back to normal and stop you inhibiting by accident. You could also use the "X" key as a way to return from snapshots if you pressed the snap button by mistake.

A note to the more privileged and intelligent amongst you who have bought my Compressor program:- in line 30 of both the BASIC is a variable AERO. This has to be changed to 5837. This is because The Compressor uses every last byte in the shadow RAM (why do you think the MGT copyright message has shortened?) and relocating this code will stop writing over the snap load routine. Wonderful! Except it now writes over the snap save routines. Therefore you will not be able to do any snapshots with The Compressor and this patch. Sorry!

You may find it interesting to know this routine hides itself normally at address 946 in the Shadow RAM which is used by the mouse routine. "What mouse routine?" I hear you moan. Well the DISCIPLE was originally intended to have its own mouse but alas MGT could never make one at a sufficiently low price and abandoned the project, so there is a dormant routine from 946 to 1013. If you want to write your own code here, it is probably best to put a RET at 946 because the DISCIPLE calls there every fiftieth of a second as the default of the POKE @16.

A final warning. DO NOT press the snapshot button with the inhibit in and press "J" because it will crash. So there. If you want to read more about the inhibit look on Page 27 of your DISCIPLE manual.

From page 16.

```
9261,40: POKE 51763,24: POKE 5074
9,201: POKE 61952,218
10 OUT 32765,16
11 INPUT "(S)AVE OR (R)OM ON?":AS
12 IF AS="R" THEN RANDOMIZE USR 3000
0
13 IF AS="S" THEN SAVE "Sinclair"LIN
E 1: OUT 32765,20:SAVE "CODE"CODE
30000,14: SAVE "48K ROM"CODE 4915
2,16384: OUT 32765,16
14 GOTO 11
100 DATA "(c)02 Sinclair & '92
SB/INDUG"
```

Some further tips, the basic keywords are held in a table from address 150 to 516. The last letter of each keyword is ASCII + 128. The same is for all tables of messages. Recording and playback table is at 2466 to 2547. The error message table is at 5010 to 5433 (NB: they are in error code order, but there is an Error 8 not listed in the +2a/+3 manual, this is End Of File at 5121). The power up message is an error message, held at 5433 to 5460.

If anyone has any further modifications to the basic, then please write in for the benefit of all +2a/+3 users. And if anyone solves the problem of the RST 8 routine before I do, please write to me or FORMAT with the answer.

Also, I have prepared 2 leaflets, one for the +2a/+3 version of 48k ROM to completely convert it into a normal Sinclair ROM for those who don't have access to an old Spectrum, and a much shorter one to convert the +2 chip (as used in the +2a Mod Kit) to a proper 48k Soft-ROM. I have to make a charge to cover the photocopying, 50p plus an SAE for the +2a/+3 Version and 20p for the +2 chip version plus an SAE. Write to:-

Stephen Baines,
7, The Burrows,
Birstall,
Batley,
WF17 8BE.

SAM

Goes To The Fair

By:- Carol Brooksbank.

Once a year, in June, my Church holds a Town Fair (country churches call it the Church Fete), with tombola, stalls selling cakes, bricabrac, plants, books etc. on the forecourt, pony rides round the churchyard, clowns and a steel band for entertainment and so on.

Before the Fair, SAM had made the posters, written the begging letters for the raffle prizes, and made notices with dire warnings to unauthorised parkers who left their cars on the forecourt on the day (if your car is stopping us from putting a stall up we shall spread our cakes, plants etc. on its bonnet - very effective, no unwanted cars when the great day came.) The Spectrum clipped in with long TAS-SIGN banners saying "PONY RIDES THIS WAY".

The day of the Fair saw me cramming the SAM Coupé, the Citizen Swift9 colour printer, a box of A4 paper, packets of tractor-feed labels in assorted sizes, spare ribbons - black and colour, a box of samples of my wares, box of discs, extension lead, 4-gang adaptor, printer cable, monitor lead, scissors, drawing pins, blue-tack, sellotape, a cake and a 56lb sack of rhubarb into my Reliant Robin and, heading for church. (Cake and rhubarb nothing to do with Sam - my effort for the produce stalls).

Mine was a printing stall - located in the refreshment room inside the church, owing to the lack of power points outside. Most people want refreshments sooner or later, so although I was out of the main area of the stalls, there was a good flow of passing customers.

The two main programs I was using were PCC's DTP PACK (Spectrum version running under SC SPECLONE emulator).

and Noesis's SAMPRINT. I had a big selection of clipart for use with DTP - PCC's CLIPART, the Teacher's Pet discs, and the SAMPRINT motifs converted to screens so that I can use them with DTP too. I have quite a collection of DTP large fonts for use with Headliner! (many sent to me by FORMAT readers), and I had a folder of printed samples of all of them. I also took along my Filofax printing program.

I was hardly in the door and connecting SAM to the Church's TV - a vast colour job used for video lectures etc., which I could actually see without my reading glasses - before Tombola became my first customers, wanting a notice explaining the complicated cost of buying their tickets. (20p each, 3 for 50p, 7 for £1)

I had made quite a collection of samples of greeting cards; (Christmas, birthday, change of address, party invitations, Good Luck, new baby, to name but a few); notices; {PLEASE CLOSE THE GATE, NO CANVASSERS/DOUBLE GLAZING, NO SMOKING etc.}; headed notepaper; menus; labels saying "FRAGILE" and "URGENT"; small personalized address labels; filofax pages; and so on - some in black, some in colour - and these were all pinned up on a board behind my stall. The customers were invited to order anything they wanted. They could copy one of the samples, personalized if they wished, or start from scratch telling me what they wanted and choosing the typeface, clipart and layout for themselves. A greetings card in black would cost 25p, 35p for a single colour, and 10p extra for every additional colour.

Among the standard notices were "BEWARE OF THE DOG", "BEWARE OF THE

CAT" and "BEWARE OF THE KIDS", with a choice of clip-art dogs, cats and children of varying degrees of ferocity available for decoration. Far and away the most popular of these was "BEWARE OF THE CAT", with a cat sticking his tongue out the favourite

One of our younger Altar Servers has the bizarre hobby of breeding stick insects, and she had a stall selling off her surplus stock. Children with sinister looking jars were everywhere, and in no time one of them arrived at my stall wanting a notice saying "BEWARE OF THE STICK INSECTS". I said he would have to settle for just the words - I had no clip art of a stick insect, and no intention of getting close enough to the contents of his jar to find out what they looked like and design one for him. (No thank you if you have a screen of a stick insect I don't want to see it, so don't send it to FORMAT - it will only frighten the Editor.)

My fussiest customers were two small sisters wanting a Father's Day card. They chose the typefaces, argued earnestly about the choice of colours,

and examined all the clip art before settling on a nut and bolt for the cover and a pair of pliers and a screwdriver for the inside. (These were thought suitable because Dad was a carpenter). A Western typeface was chosen for "Happy Father's Day to Dad", and a fine gothic script for their own names. The operation took about half an hour, but not only did I have two happy customers, but their activities drew a crowd interested in how a card was designed and made

The biggest money-spinner was small personalized address labels. At 30p for a sheet of 16, the unit cost was about 3 times as much as the usual commercial ones sold by the 1000, but no one minded. In fact, most people don't want 1000 at a time, and would far rather buy 48 for 90p than 1000 for £6.95.

A printing stall turned out to be a good fund raiser. I don't know how much my stall took, because the Treasurer was collecting our takings all afternoon and did not keep individual tallies, but the whole Fair netted over £670 for Church funds



If you would like to try something similar for your pet cause, here are some tips

1) Prepare in advance plenty of samples of all sorts of things. (I even sold a Christmas card on a scorching hot day in June because someone thought it unusual (see below).

2) Make a check list of the things you need to take - it is no use arriving at the venue to discover you have left a vital program disc at home.

3) Check the venue beforehand - make sure the organizers give you a pitch near a power point.

4) Take your own extension leads etc. Even if there is one belonging to the venue you can be sure someone else will be using it.

5) Have lots of layouts already on disc, so that you can print off, with the minimum of fuss, anything displayed among the samples. For instance, I had the DTP layout for my own address labels on disc, and only had to use the Search and Replace



from
OUR DOG
to
YOUR DOG

option to substitute the customer's name, address and phone number.

6) Keep busy. If you haven't a customer for a while, print something anyway, even if it is only another sample. People will be attracted to your stall if something is happening. A dead printer and a blank screen will not interest anyone.

7) Have plenty of stationery and spare ribbons with you. DTP printing can be hard on ribbons and you don't want your efforts looking anaemic by the end of the day

8) Keep your prices attractive. People will pay up to 30p for almost anything. I charged 5p for headed notepaper and 25p for a greeting card - both printed on a sheet of A4 costing less than 2p - but people thought the card the better bargain.

Several people were interested in the SAM Coupé, especially when I said that it was pretending to be a Spectrum and running a 48K Spectrum program. I had a lot of fun, made some

Turn to page 23.

**BEWARE
OF THE
CAT**



SAM COUPE ARCADE DEVELOPMENT SYSTEM

At last, the amazing new game creation system from Glenco Software.

ARE YOU FED UP WITH THE LACK OF GAMES FOR THE SAM COUPE ?

Well, now you can write your own !!!

- ① The SCAD system will allow anybody who can program in BASIC to write complex and exciting arcade games or graphics demonstrations with ease
- ② SCADs is supplied with an extremely comprehensive 200 page ring bound manual, explaining all of the powerful commands in great detail
- ③ The SCAD system is extremely easy to use. You could be writing your first game within hours of reading the SCADs manual !
- ④ Write amazing games to challenge all of your friends
- ⑤ All games written using SCADs can be sold commercially

SCADs IS ALL YOU MAY NEED TO START YOUR OWN COMMERCIAL SOFTWARE HOUSE

64 On screen sprites

Large 200 page A5 manual in ring binds

Over 60 new BASIC commands

Complete games, supplied with manuals

Comprehensive room editor

Automatic collision detection

Up to 255 sprite images

Ladders, stairs and conveyors

Automatic animations

Large number of sprites supplied

Up to 255 scenery graphics

Sprite paths

Out-of-this-world sound effects

Over 250 screens/rooms

Proportional characters sets

WIMP designer environment

Automatic missile firing sprites

Joy-stick/keyboard control

What the Papers Say

SU, NOV '92 : "...allow you to produce some pretty stunning computer games", "a thoroughly impressive package", "Go for it", **OVERALL SCORE 93%**

ENCELADUS OCT '92 : "Immaculately presented", "more versatile" "overall I'd recommend SCADs". **OVERALL SCORE 94%**

OUTLET, OCT '92 "polished", "more advanced", "superior manual", "superior demonstrations", "Excellent"

Complete SCAD System

£24.95

28 Day money-back guarantee (if not entirely satisfied)

Glenco Software

Osborne Road, Oxbridge, Stockton on Tees, Cleveland

TS18 4DJ Tel (0642) 604740

CLIP ART

Reviewed By:- Carol Brooksbank.

Dave Ledbury, one of the ZAT team, has sent me a copy of a collection of clip art converted for SAM from Archimedes.

The screens are SAM MODE 4 screens, in full colour. They have been compressed so that a surprisingly large number can be accommodated on one disc, and the screens are grouped in categories, to make locating the one you want easier. You have to load your own DOS from another disc, then load the clip art disc, which offers a menu, with a choice of a "read-me" file or 9 categories of clip art.

The "read-me" file is the collection handbook. It simply gives instructions for viewing the screens, and for saving out as full SCREENS files any that you wish to use.

The categories are ANIMALS, BUILDINGS, CARS, FANTASY, FULLSCREEN, OBJECTS, PEOPLE, SPORTS and TRANSPORT. Sector errors on the disc I received prevented me from viewing SPORTS and TRANSPORT, but the other categories contained 92 screens between them, so I think the whole collection will be in the region of 100 screens.

The number in a category varies from 20 in ANIMALS (insects, birds, farm animals, jungle animals, some natural, some cartoon), to 4 in OBJECTS (including an apple and a teapot).

There is a very wide range of subjects - some of which are similar to those in other collections, but some are very different. In BUILDINGS, for instance, in addition to the usual Big Ben, Taj Mahal and Arc de Triomphe, there are a number of modern looking suburban houses, and bedroom and kitchen interiors

clip art, and the quality of the screens is very high. The artwork has been put into the public domain, so users may use the clip art freely in their own programs and printing work, though you are asked to acknowledge the source. The price, too, is public domain - £1 50, and the compilers promise that, if this collection is successful, they will look at the possibility of producing some more.

You can obtain it from:- Dave Ledbury, c/o Martin Scholes, 5, Beacon Flats, Kings Way Road, Wellington, Telford, TF1 1RG

From page 21.

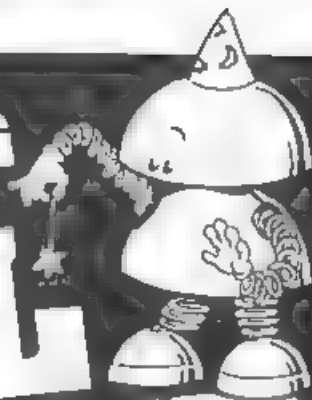
money for the funds, and was very flattered when someone said "I didn't realise you were in the printing business". They were staggered to discover that this wasn't my profession, but just one of the many interesting variations of the hobby of computing. And I even found time to snap up a boxed set of Placido Domingo in Pagliacci for 50p at the record stall!



Carol Brooksbank
A POSTER MAKER AT WORK

This is a wide ranging collection of

PRESENTING



SPELL MASTER

- OVER 80,000 WORDS
- ANAGRAM SOLVER
- CROSSWORD SOLVER
- BUILT IN, FULLY FUNCTIONAL WORD PROCESSOR
- 100% MACHINE CODE
- PERSONAL DICTIONARY
- AUTOCHECK - SPELL CHECKS WHILE YOU TYPE!
- ACCEPTS FILES FROM OUTWRITE, SECRETARY, TASWORD AND ALL MAJOR WORD PROCESSORS

AS WELL AS ALL USUAL FEATURES:

- Add, Ignore, Change a word
- Re-formats paragraph after mistake is corrected
- Allows for phone numbers, postcodes etc
- Spellcheck whole text, word, paragraph etc.

PRICE £14.99 (OVERSEAS ORDERS ADD £2)

FRED PUBLISHING, 40 ROUNDYHILL,
MONIFIETH, DUNDEE DD5 4RZ

For The SAM

MAIL MERGE

Using FileMaster and The Secretary

By:- Carol Brooksbank.

Revelation's new wordprocessor for SAM, THE SECRETARY, has a mailmerge option which works in a slightly unusual way.

The main body of your letter is kept as a mailmerge file in memory. The list of people to which you wish to send it is written as a document with short pages, each page comprising the top part of your finished letter (your own address, the date, name and address of one person to whom you are writing, and "Dear...")

At the printing stage, each of these short pages is printed, then the main body of your letter is added to it, and a form feed sent. You end up with as many letters as you had short pages in your file. A short page may look something like this:

FORMAT PUBLICATIONS

74, Bourton Road
Goucester
GL4 0LE

Tel:- 0452-412572

10th October 1992

Mr S J Muttling
Steve's Software
7 Narrow Close
Histon
Cambridge
CB4 6RZ

Dear Steve

That is a 20 line page, and if Bob were writing to 24 software houses, he would have a document with 24 similar pages, in which only the name and address of the addressee, and the name after "Dear" would be different.

It is, as I say, an unusual way of

doing things, but it works very effectively. The only trouble is, it takes a long time to type in the document of short pages.

So I decided to write an extension for FILE MANAGER, the SAM filing program I wrote for BETASOFT. It allows you to specify the length of your short pages, and what is to go on each line. You can enter text, if you wish, but if you enter "E" followed by a FILE MANAGER field identification letter, it will enter the information from that field into the line, and it will produce the short pages automatically for every file entry in a search or sort list from your FILE MANAGER file. It then constructs on a disc in drive 1, a code file which can be imported into THE SECRETARY, and which will contain all the short pages. All you have to do is set the page length to whatever length you specified when using the FILE MANAGER extension, write your mailmerge page, and you are away.

Bob a short page, when entering it, just once, using the extension, might look something like this:-

FORMAT PUBLICATIONS

74, Bourton Road
Goucester,
GL4 0LE

Tel - 0452 412572

10th October 1992

BB
LC
GD
EE
BF
GG

Dear BH

The finished code block would contain 24 pages, each correctly laid out for one of the software houses.

Be warned, the extension takes a long time to construct the code block if you are using a very long list. And you must, of course, ensure that your finished code block will not be too long for THE SECRETARY. You can do about 250 20-line short pages, but if your short pages or your list of names are longer, you should split the list.

Load FILE MANAGER, exit to BASIC and type in these new BASIC lines for the extension procedures at the end. I have numbered them from 30000, because I have one or two other extensions added to my copy, but you can renumber them to start immediately after your existing BASIC if you wish.

Then, you must add the extension to one of the menus. I suggest making it option 8 on the DISC OPERATIONS menu. To do this, make the following alterations to the FILE MANAGER BASIC:-

line 4020 - delete the first PRINT command (so that the lengthened menu will still fit the screen)

line 4080 - insert PRINT " 8) MAKE SECRETARY FILE":PRINT, immediately before PRINT " 9) EXIT"

change: line 4800 Secmerg add:

line 4810 GO TO menu4

Use SAVE OVER "FILEPROG" LINE 5 to save your expanded version of FILE MANAGER.

To use the extension, first prepare the search or sort list for your mailmerge file. Then select the operation from the DISC OPERATIONS menu.

You will be prompted first for the number of lines in your short page, and then for the content of each line in turn. As you enter text or &+field letter (upper case), you will be asked to specify the left and right columns

for the item. If it is to be the only item on a line, give 64 as the right column. If you give a lower number, the program will ask for the next item on that line. To enter an empty line, press RETURN. If your left and right columns give too short a window for the item, its text will be truncated.

When you have defined all the lines, the layout will be displayed and you will be able to correct any errors. When you confirm that the layout is OK, you will be asked whether you are using a search or sort list, and for its number. The file will then be constructed. The code file produced on disc will be called "secfile". You can import it into THE SECRETARY, change the page length at the EDIT menu, and re-save the file in the normal way as an ordinary text file under whatever name you choose. You should erase "secfile" when this has been done.

This extension will save you a lot of time, and make using THE SECRETARY's mailmerge option a much more attractive proposition. These two programs now give us the same sort of interaction on SAM that Spectrum users have had with TASWORD and MASTERFILE.

```

30000 DEF PROC Secmerg
30010 MODE 3: PALETTE 0,17: PAPER 0: P
EN 3: CLS
30020 LOCAL AJ: LOCAL BJ, LOCAL DJ, LO
CAL EJ: LOCAL FJ, LOCAL GJ: LOCA
L LJ: LOCAL MJ: LOCAL NJ, LOCAL
PJ: LOCAL QJ: LOCAL RJ: LOCAL SJ
: LOCAL TJ: LOCAL XJ: LOCAL YJ:
LOCAL ZJ: LOCAL LISTJ: LOCAL LEF
TCOL: LOCAL RIGHTCOL: LOCAL STAR
T: LOCAL HJ$: LOCAL MJ$: LOCAL N
J$: LOCAL YJ$: LOCAL LINTXS: LO
CAL SECS
30030 PRINT "YOU MUST DECIDE THE DEPTH
IN LINES OF THE SECRETARY PAGE
YOU AREDESIGNING."
30040 INPUT "LINES IN PAGE":XJ
30050 DIM SECS(XJ,64)
30060 CLS
30070 PRINT "YOU MUST NOW DEFINE THE C
ONTENT OF EACH LINE OF YOUR PAGE
.": PRINT "IF YOU WISH TO TAKE I
NFORMATION FROM THE FILE, ENTER
THE FIELD CODE PRECEDED BY '6'
AS: 6A"

```

```

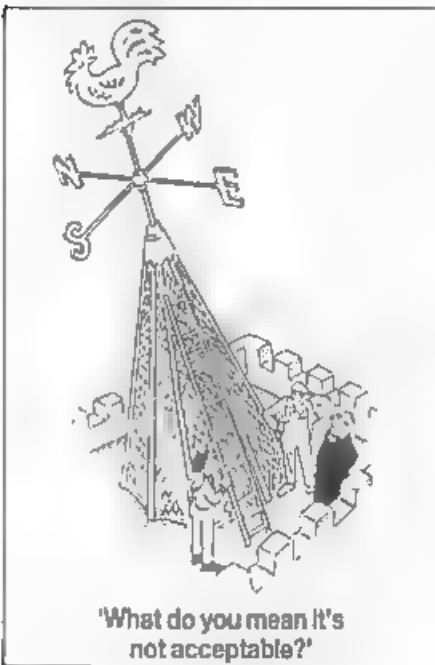
30080 PRINT "IF YOU WISH TO ENTER TEXT
, GIVE THE TEXT, BUT THE CHARACT
ER '6' MUST NOT BE USED."
30090 PRINT "YOU WILL BE PROMPTED FOR
THE FIRST AND LAST COLUMNS TO BE
USED BY THE INPUT ITEM. IF NO
OTHER TEXT/FILE INFORMATION IS T
O APPEAR ON THE LINE, GIVE
64 AS THE LAST COLUMN."
30100 PRINT "IF THE LAST COLUMN IS NOT
64, YOU WILL BE PROMPTED FOR FU
RTHER INFORMATION ON THAT LINE.
THE FIRST COLUMN FOR THIS ITEM
MUST BE GREATER THAN THE LAST COL
UMN OF THE PREVIOUS ONE."
30110 PRINT "TEXT TOO SHORT FOR ITS WI
NDOW WILL BE BULKED OUT WITH SPA
CES. TEXT TOO LONG WILL BE TRU
NCATED."
30120 PRINT "TO ENTER A BLANK LINE, SI
MPLY PRESS RETURN IN RESPONSE TO
THE PROMPT."
30130 FOR YJ=1 TO XJ
30140 PRINT AT 17,0:"DEFINING LINE "-Y
J
30150 LET LEFTCOL=1
30160 INPUT "CONTENT OF LINE":LINTXS
IF LINTXS="" THEN LET SECS(YJ)=
STRINGS(64," "): LET RIGHTCOL=64
: GOTO 30200
30180 IF LINTXS(1)="6" THEN INPUT "LE
FT COLUMN":LEFTCOL: LET SECS(YJ,
LEFTCOL TO LEFTCOL+1)=LINTXS: I
NPUT "RIGHT COLUMN":RIGHTCOL: GO
TO 30200
30190 INPUT "LEFT COLUMN":LEFTCOL: INP
UT "RIGHT COLUMN":RIGHTCOL: LET
SECS(YJ,LEFTCOL TO RIGHTCOL)=LIN
TXS
30200 IF RIGHTCOL>=64 THEN GOTO 30290
30210 INPUT "FURTHER CONTENT OF LINE":
LINTXS
30220 IF LINTXS="" THEN LET SECS(YJ,R
IGHTCOL+1 TO 64)=STRINGS(64-RIGH
TCOL," "): GOTO 30290
30230 INPUT "LEFT COLUMN",LEFTCOL
30240 IF LEFTCOL<RIGHTCOL+1 THEN GOTO
30230
30250 IF LINTXS(1)="6" THEN LET SECS(
YJ,LEFTCOL TO LEFTCOL+1)=LINTXS
30260 INPUT "RIGHT COLUMN":RIGHTCOL
30270 LET SECS(YJ,LEFTCOL TO RIGHTCOL)
=LINTXS
30280 IF RIGHTCOL<64 THEN GOTO 30210
30290 NEXT YJ
30300 CLS
30310 FOR ZJ=1 TO XJ
30320 PRINT SECS(ZJ)
30330 NEXT ZJ
30340 POKE SVAR 618,8: INPUT "IS THIS
OK ,Y N,,"YJ$
30350 IF YJ$="N" THEN INPUT "LINE TO C
HANGE":YJ: EDIT SECS(YJ): GOTO 3
0300
30360 CLS : PRINT "PUT A DISC FOR THE
MAILMERGE FILE IN DRIVE 1":press
key
30370 CLS : POKE SVAR 618,8: INPUT "CO
NVERT Search or sort LIST? enter
S or T":MJ$
30380 IF MJ$="S" THEN LET NJ$="SLIST":
ELSE IF MJ$="T" THEN LET NJ$=
"SORT": ELSE : GOTO 30370
30390 INPUT "LIST NUMBER":MJ: LET NJ$=
NJ$+STR$ MJ
30400 : CLS : PRINT "CREATING THE FILE
- PLEASE WAIT"
30410 LOAD NJ$ DATA LISTJ()
30420 LET QJ=LENGTH(1,LISTJ())
30430 DEVICE D3: OPEN #4:FILENAME$ RND
: DEVICE D1: OPEN #5:"secfile"RN
D: PRINT #5:CHR$ 613:CHR$ 255:CH
RS 255:CHR$ 640:CHR$ 69C:CHR$ 25
5:CHR$ 255:CHR$ 255:CHR$ 661;
30440 FOR RJ=1 TO QJ
30450 FOR SJ=1 TO XJ
30460 LET HJ$=SECS(SJ)
30470 FOR TJ=1 TO 64
30480 IF HJ$(TJ)="6" THEN getinfo
30490 NEXT TJ
30500 DEVICE D1 POINT#5.LENGTH#5
30510 PRINT #5:KJ$:
30520 NEXT SJ
30530 NEXT RJ
30540 DEVICE D3: CLOSE #4: DEVICE D1:
CLOSE #5
30550 LET LJ FSTAT("secfile",2) 9,PJ=F
STAT("secfile" 1)
30560 LET AJ=INT ((PJ-1)/20),BJ=INT ((
PJ-1)- 20*AJ /2)
30570 LET DJ=INT (LJ/16384),EJ=LJ-(DJ*
16384)
30580 LET FJ=INT (EJ/256),GJ=EJ-(FJ*25
6)
30590 READ AT 1,AJ,BJ,150000
30600 IF INT (PJ/2)=PJ/2 THEN LET STAR
T=150256: ELSE : LET START=15000
0
30610 POKE START,613: POKE START+236,6
61,640,69C,DJ,GJ,FJ
30620 WRITE AT 1,AJ,BJ,150000
30630 DEVICE D1: OPEN #4:"secfile"RND
30640 POINT#4 1
30650 PRINT #4 CHR$ GJ CHR$ FJ,
30660 POINT#4: ?
30670 PRINT #4 CHR$ DJ,

```

```

30680 CLOSE #4. DEVICE D3
30690 END PROC
30700 DEF PROC getinfo
30710 LOCAL AKS: LOCAL ZKS: LOCAL BK:
LOCAL CK: LOCAL CKS: LOCAL GK. L
OCAL LEFTK: LOCAL RIGHTK
30720 LET AKS=KJS
30730 LET LEFTK=TJ.RIGHTK=64
30740 FOR BK=LEFTK+2 TO 64
30750 IF AKS(BK)<>" " THEN LET RIGHTK
BK-1: GOTO 30770
30760 NEXT BK
30770 LET CKS=AKS(LEFTK+1)
30780 DEVICE D3
30790 POINT#4:LISTJ(RJ)
30800 DO
30810 INPUT #4,ZKS
30820 IF ZKS=CHRS 255 THEN LET ZKS=CHR
$ 129:EXIT DO
30830 IF ZKS=CHRS 129 THEN EXIT DO
30840 IF ZKS(1)=CKS THEN EXIT DO
30850 LOOP
30860 IF ZKS=CHRS 129 THEN LET AKS(LEF
TK TO RIGHTK)=STRING$(RIGHTK-LEF
TK+1," "): ELSE : LET GK=INSTR(Z
KS,CHRS 129),ZKS=ZKS(3 TO GK-1),
ZKS=TRUNC$ ZKS.AKS(LEFTK TO RIGH
TK)=ZKS
30870 LET KJS=AKS
30880 END PROC

```



★ ★ SMALL ADS ★ ★

WANTED A copy of Fastlane 20 for the SAM Coupé. Also SAM contacts to swap PD. Please write to Chris Dodd, 23 Combermere, Thornbury, Bristol, BS12 2ET.

WANTED Foreign collector desperately seeks the following Sinclair items: Early issues of CRASH, Your Sinclair, Sinclair User, ZX Computing. Also books wanted - especially 128K, Machine Code. Write to Christoph Idstein, Wilhelm-Leuschner-str. 67, 6507 Ingelheim, Germany

FOR SALE Sam Messenger £25, Melbourne House Spectrum+2 Machine Code book £5, DK ZX Spectrum Graphics book £3, Ocean Laser Basic £3, Spectrum Modular 2 Compiler £10. Nigel French, Tel: 0406 22916 after 7pm please.

SAM Coupé 256k, 1 drive, serious and games software, all manuals etc. Minor keyboard fault, £80, Tel Paul on 0705 826200

YOUR ADVERT
Selling, Buying, Pen Friends, etc.

Any **PRIVATE** advert, up to 30 words (subject to acceptance), will be printed **FREE** in the next available issue. Any software sold must be original, in working order and with full instructions.

The publishers will not be held, in any way, responsible for adverts in this section. Trade advertisers contact the publisher for rates.

PLEASE NOTE: Due to limited space we can't guarantee your advert will appear in a particular issue. If your advert remains unpublished after two issues please send it in again.

MACHINE CODE

WITHOUT THE TEARS

Part 14.

By:- Carol Brooksbank.

This month we begin with two more library routines. You already have NXDOWN and NXUP, which find the next character cell below or above the one we are on. These two routines find the next byte above or below the one we are on, wherever we are on the screen. Don't worry about the logic of how they do it - with standard library routines like these you can simply accept that they do the job.

```

LINEUP  PUSH AF
        LD A,H
        DEC A
        LD H,A
        CPL
        AND 7
        JR NZ,UPEXIT
        LD A,L
        SUB 32
        LD L,A
        JR C,UPEXIT
        LD A,H
        ADD A,8
        LD H,A
LPEXIT  POP AF
        RET

```

This routine, called with a screen byte in HL returns with HL holding the byte above it - make sure you don't call it with a byte from the top line of the screen in HL! You will notice a new instruction, CPL - ComPlement. It reverses all the bit settings of the byte in the A register. If A holds BIN 10010011, after CPL it will hold 01101100.

```

LINEDOWN PUSH AF
        LD A,H
        INC A
        LD H,A
        AND 7
        JR NZ,DNEXIT
        LD A,L
        ADD A,32
        LD L,A
        JR C,DNEXIT

```

```

LD A,H
SUB 8
LD R,A
DNEXIT POP AF
RET

```

This routine, called with a screen byte in HL, returns with the byte below it in HL. It must not be called with HL holding a byte from the bottom line. Type both of these in and save them to your disc of library routines.

Now we shall write a program which will scroll the screen - or a window - up or down. Clear the two library routines from your assembler, because we shall merge them in, as we always do with library routines, at the end of the program.

```

ORG 30000
SCRN EQU 16784 (Spectrum only)
SCRN EQU 32768 (Sam only)

```

We shall use ORG 30000 because our tractor programs begin at 32000. This is going to be a stand-alone program, but if you load its code in before loading and running one of the tractor programs, you will be able to call its routines to move the tractor up and down too. Make sure you type in the correct SCRN line for your machine.

```

TOPL DW SCRN+0
BOTL DW SCRN+6048
WID DB 32
HT DB 176
SCRNO DB 68
WKSP DS 32

```

These are variables used by the program. TOPL holds the top left byte of the window we want to scroll. I am using the top left corner of the screen. BOTL holds the bottom left byte of our window. The program as written here will scroll all the screen except the two 'input' lines

so BOTL holds the bottom left byte of row 32. WID holds the number of bytes across our window - 32 is the full width of the screen. HT holds the number of bytes down the window - for 22 rows this is 22*8=176. SCRNO holds the number of times we wish to move the window by one pixel. 88 will scroll the window halfway. Different values in these variables will change the size and position of the window and the number of pixels by which it is scrolled

WKSP is an area where we can store the top or bottom line, depending on which way we are scrolling, until all the window has been moved, when we need to copy it into the last line.

```
PIXDOWN LD HL,(BOTL)
LD DE,WKSP
LD A,(WID)
LD C,A
LD B,0
LDIR
```

This is the start of the subroutine which scrolls the whole window down by one pixel. The bottom line is copied to the workspace using LDIR. WID - the number of bytes in one line of the window is used as a counter in BC, but since it is a 1-byte variable (it can't ever be wider than 32, the full width of the screen), we cannot use LD BC,(WID), because that would load the contents of two bytes into BC, corrupting our counter. The value of WID must go into C, with B holding 0.

```
LD HL,(BOTL)
LD A,(HT)
LD B,A
```

At the start of the scroll, HL holds the bottom left byte of the window, and B the number of lines in the window

```
DOWNLOOP PUSH BC
PUSH HL
POP DE
CALL LINEUP
```

The counter is preserved, and the address in HL copied to DE, because this is the line to which the line

above will be copied. LINEUP is called to find the start of the line above.

```
PUSH HL
LD A,(WID)
LD C,A
LD B,0
LDIR
```

HL is saved while we use LDIR to copy its line to the line below.

```
POP HL
POP BC
LJNZ DOWNLOOP
```

If there are any more lines to do we loop back with HL holding the address of the line just copied, which will become the line to be copied to in the next pass.

```
LD HL,WKSP
LD DE,(TOPL)
LD A,(WID)
LD C,A
LD B,0
LDIR
RET
```

When all the lines have been copied downwards, the former bottom line is fetched and copied to the top line. The subroutine has therefore scrolled the window down by one pixel.

```
PIXUP LD HL,(TOPL)
LD DE,WKSP
LD A,(WID)
LD C,A
LD B,0
LDIR
LD HL,(TOPL)
LD A,(HT)
LD B,A
UPLOOP PUSH BC
PUSH HL
POP DE
CALL LINEDOWN
PUSH HL
LD A,(WID)
LD C,A
LD B,0
LDIR
POP HL
POP BC
DJNZ UPLOOP
LD HL,WKSP
```

```
LD DE,(BOTL)
LD A,(WID)
LD C,A
LD B,0
LDIR
RET
```

This subroutine works in the opposite way, to scroll the window up one pixel.

```
SCROLLDN LD A,(SCRNO); Sam users see below
LD B,A
DOWNLP PUSH BC
CALL PIXDOWN
POP BC
DJNZ DOWNLP
RET
```

SCROLLDN is the point from which the program is called if you want to scroll the window downwards. Sam users should delete the label from the first line and add a line above these:

```
SCROLLDN CALL SCREENIN
```

Immediately above RET, Sam users must insert another line

```
CALL SCREENOUT
```

This main loop is very simple. It fetches the number of times the window is to be scrolled as a loop counter, and calls PIXDOWN on each loop.

```
SCROLLUP LD A,(SCRNO)
LD B,A
JPLP PUSH BC
CALL PIXUP
POP BC
DJNZ UPLP
RET
```

SCROLLUP is the point at which the program is called to scroll the window upwards. Again, Sam users must add:-

```
SCROLLUP CALL SCREENIN
```

at the start, delete the SCROLLUP label from its original line and add:

```
CALL SCREENOUT
```

immediately above RET.

All users must now add the library routines LINEUP and LINEDOWN at the end, and Sam users must also add SCREENIN and SCREENOUT. At the very end, after the library routines, add:-

```
END EQU $
LENGTH EQU END-TOPL
```

You should now save your source code, and assemble it. Keep a printout of your symbol table, or note the values if you have no printer, because this program can be called from more than one place, and you will need the addresses of the variables if you want to change the size and position of the window to be scrolled.

Reset your computer, enter CLEAR 29999, and load your object code to 30000. Load any screen you like - Sam users make sure you are in MODE 1.

Now, if you call the machine code from SCROLLDN, the whole screen, except the bottom two lines, will be scrolled halfway down. Calling from SCROLLUP will scroll it back to the original position. If Spectrum users call the code from PIXDOWN or PIXUP, the screen will scroll by just one pixel. Sam users have no CALL SCREENIN and CALL SCREENOUT instructions in the PIXDOWN and PIXUP routines, so Sam users wishing to scroll the screen one pixel at a time would change the byte at SCRNO to 1 and call the routines from SCROLLDN and SCROLLUP, as usual.

Experiment by poking different screen byte addresses, height, width and number of lines to scroll into the variables. Make sure your height value matches the number of lines in your window between TOPL and BOTL inclusive, or it will not scroll properly. And remember that you cannot find the height just by deducting TOPL from BOTL. Use the table in part B, Fig. 2 (in FORMAT April 1992) to help you to work things out, but when finding screen addresses, don't forget to add the value you take from the table to the screen start address before poking the address into the variable

You can play around quite a lot with this routine. Try writing for yourself another listing, in which instead of storing the first line of the scroll in WKSP at the start of each pass, you store 0 in each of the WKSP bytes. Then, when you call the machine code, you will, instead of scrolling the window, cause the contents to be scrolled and disappear off the top or bottom, leaving the window behind the scroll in PAPER colour. Filling the WKSP with 255's would scroll the contents out of the window, leaving it filled with INK colour. Since we are not touching the attributes, these scrolls could leave you with some different coloured squares if the attributes are not the same throughout your window. So, you will have devised some fancy ways of clearing windows or the screen. See if you can work out what bytes to put in the WKSP if you want to leave the window filled with stripes after the scroll.

I shall not give you the answers to all this. Use trial and error. This is a good program to play about with, to practice altering machine code to make it do something a little different. Save your various efforts under different names before you assemble and test them, so that you do not erase your original source code and can go back to it and try again if things don't work out right first time.

That is all we are going to do with the screen for now. Next month we shall move on to reading the keyboard. See you then.



'I see Bob is still a bit sensitive about going thin on top then.'



WRITING FOR FORMAT

FORMAT needs your contributions to fill these pages. Many readers are asking for more information on things like:-

RS232, Printer Control Codes.

SAM Sound & Graphics

Education, Hardware Construction.

+3 Disc System, Basic Conversion.

Articles could be any length from half a page up, but two or three pages is about right for most subjects.

Articles should be sent as ASCII word processor files on disc (we can cope with 3 $\frac{1}{2}$ " or 5 $\frac{1}{4}$ " discs from DISCIPLE, PLUS D, SAM or IBM PC).

Programs should be included on the disc as normal Basic or Code files so we can load and test them before printing. Avoid using embedded colour control codes and UDG characters in Basic - they make listings harder to produce and to read, use INK, PAPER and CHR\$ to do the same job. NEVER use the lower case L as a variable it looks too much like the number 1. Tell us if your program needs any special hardware or DOS version to run.

All published articles receive some reward, either in the form of extended subscription or direct payments. If you write a good review of a new product you may find we will send you other products to look at.

Come on, give it a go, you don't need to be an expert to write for FORMAT. We will help you all we can to get what you want to say knocked into shape and into print.

If you have any ideas you want to talk over then give us a ring on 0452-412572.



YOUR LETTERS



Dear Editor,

I'm now getting a little used to the Sam Coupe. But there is one problem. At the moment I'm using the 22" TV set in our lounge and obviously it is not too clear.

I have a monitor (RGB) but with a lead into SPECTRUM with a round fitting which then goes to an oblong socket (10 hole) on the monitor.

Can I make an adapter to go into Coupe.

Yours sincerely, P.Ellis.

The Spectrum's socket pin-outs are given in the Speccy's manual, that is if you have the +2 or +3 (I have a handful of +2 manuals available if anyone is interested). All you would need is a matching socket, a short piece of lead and a smart connector to go into SAM. I don't know what the 10 pin socket is on the monitor - most are 9 or 15 pin - but you could work it out by tracing the Spectrum's connections and then make up a whole new lead from SAM. Ed.

Dear Editor,

Having been in business for some 25 years, I know how people are quick to criticize shops and businesses when things don't go their (the customers) way. They are not so quick however, when it comes to the other side of the coin and give praise or credit where it is due. This letter is to do both on my own behalf. I read in the May issue of FORMAT about a +2A Mod. Kit advertised by B.G. Services, I wrote to them with a few queries about the kit and had a reply by return of post. This when I had even neglected to enclose s.a.s. I did a Lloyd Grossman (I deliberated, cogitated and inwardly digested) and then decided to purchase the kit.

I wrote enclosing a Building Society cheque and ordered it, thanking them for their prompt services. Within a

matter of a couple of day's the +2A Mod Kit landed on my doormat. This in the computer related trade is, for me something special and I would like you to acknowledge through your pages, the gratitude of a satisfied customer.

Now for the other side of the coin (I did warn you). At the beginning of the year I bought SPECFILE+ from S.D. Software and received with it a provisional manual. They stated that they had been having problems producing this manual and that the complete version would be ready by the end of March, and that I would receive a free copy. I let it go through April in case of more problems, but still no word. I wrote to S.D. Software the same day that I wrote to B.G. Services. I have as yet to receive even an acknowledgement to my letter.

That is my double side coin in the customer complaints dept.

Now for a general complaint about computer hard/software producers. Please don't hesitate to put me right if you think I am being unreasonable. If a company has a product, and is advertising it for sale, is it too much to expect a delivery similar to that at the beginning of my letter. I have ordered two software discs from a company I shall not name because apart from the delays I have no cause to complain. However they do specify delivery within 28 days. This to me seems excessive for a product that is proven- and previously marketed. I use Building Society cheques. These are as good as cash since they will not be issued unless the funds are available, and once I have passed it on I cannot stop that cheque.

Well, that has got a few moans off my chest. FORMAT is a good pressure valve as well as a very good magazine. My son is a Spectrum user, and following a serious road accident he is laid up at the moment. I don't live near enough to visit him regularly,

but he might very well find 'our' FORMAT magazine a useful item. Will you please send him a sample copy, it might well make him a subscriber.

Many thanks for your sterling work.

Yours sincerely, Kenneth Barrett.

Quite a lot there Ken. I'm sure your praises are justified and I'm sure Brian Gaff will be pleased to read them. As to your brick-bats, I will try to answer a few.

First it is me that has to apologise about the Specfile+ manual - Nev asked me to write the new version (cos I luv the prog so much) however as the months went by I got more and more tied up with other projects and eventually I sub-contracted the job to Carol Brooksbank (who will do a far better job than me anyway). The manual is now undergoing final typesetting so should be out soon. That said - the original manual was quite good (which was one of the reasons I didn't put too high a priority on the re-write) and there are now hundreds of users happily playing with the program. I sell several copies at each show I go to and I know S.D. get many orders based on personal recommendation.

I did speak to Nev when your letter first arrived here and at that time he could not find your letter to him. I'm sorry it has taken a little time to get your letter into print.

Yes I agree, given an ideal world, it would be nice to dispatch orders the day they come in. BUT, and it is a big but, we all have to be realistic. Processing orders takes time - deciphering orders is often the hardest part (and why do some people insist on using tiny scraps of paper which so easily get lost between other bits of paper), then duplicating; labeling; packing; addressing and stamping (not to mention righting out the certificate of posting and trudging down to the local post office only to join a l-o-n-g queue to get service.

Now most software companies are small, often one man, operations. That person will nearly always have a full time job - few could make enough money to live on from this market. It is

therefore only a matter of economics to save up orders until there are enough to make it worth processing a batch. That is what most companies, including us, do. I have ordered software in the past costing over £200 and still waited 8 weeks for delivery.

Oh and by the way, in the last two years we have had four building society cheques bounce on us. They are just ordinary cheques - no safer than a personal cheque and just as easy to stop (I have also stopped two cheques I have drawn on my building society account in recent years).

As to your son, I hope he enjoyed his FORMAT and I trust he will have a speedy recovery. Ed.

Dear Editor,

I have waited a long time for the All Formats Computer Fair to come to the North, but I was very disappointed, out of about 20 stalls there was only one that had anything to do with Spectrum and this was running two SAM Computers, what a let down, I won't be going to any more shows if that was a sample of the post shows and at a cost of £3 with a ticket it was a rip off to say the least.

I did meet Nev Young and introduced myself to him, unfortunately he was in a bad location i.e. in a back room, I left after about one hour having purchased a roll of labels.

What more can I say it was a complete flop for me, never mind, I can still read my FORMAT, so keep churning out the Spectrum items and I won't complain.

Yours sincerely, W.A.Yates.

There are now far too many shows so it is impossible to go to them all, that is why S.D. Software, Fred Publishing and ourselves got together recently and agreed to pool resources so we can cover more shows. It is the old chicken and egg situation. I went to a show in Bristol early this year and only one FORMAT reader turned up.

Having said that, if you phone us we can tell you if there will be someone at a particular show. Ed.

Dear Editor,

Please find enclosed my renewal notice but while I'm writing I have a question.

I want to purchase the Manta-ray joystick from Spectravideo which was reviewed in FORMAT Vol 4 No 11, but haven't seen an advertisement in any German or British magazine offering the Manta-ray yet.

Please tell me, where can I order it from? I'm not keen on calling the telephone number of Spectravideo all the way from Germany.

Also, some time ago, I read about several 'game machines' that have a Z80 processor built in. Also some other facilities are very similar to SAM's ones. Perhaps some clever people would be able to convert games written on these machines for SAM. You could ask e.g. Enigma or Revelation if they already have had this idea!

Here I'm giving some details.

Master System - Z80, 4MHz 256x192 pixel screen with 32 from 64 colours, 4 sound channels, 512K per RAM module. Game Gear - Z80A, 3.58 MHz, 4 sound channels stereo, 128-256K per RAM module.

Mega Drive - Z80 at 4 MHz plus 68000 processor, 512K-1.5MB per RAM module.

I think they could be compatible with SAM in this order. If it were possible - think of the extension of the software range!

Yours sincerely, Ingo Wasenack.

If you contact Spectravideo Ltd at 27 Northfield Industrial Estate, Wembley, Middlesex, HA0 1NU, they will be able to send you addresses for German distributors.

Mmm, there do seem to be a lot of Z80 based consoles don't there. Time will tell, but I think SAM is a good enough machine to stand in its own right. Ed.

Dear Editor,

Please find enclosed a copy of code for PCG's DTP which can be forwarded to Mr Quedsted as per his letter in the

October edition of FORMAT.

Also, through purchasing a copy of the Shareware Magazine, I have found The Public Domain and Shareware Library who claim to have '800 or so discs' available for CP/M users. As this may be of interest to users of PRO DOS, they can be contacted at: Winscombe House, Beacon Road, Crowborough, Sussex TN6 1UL. Telephone 0892 663298, Fax 0892 667473. For the cost of an SAE, they will send a list of all CPM Discs with a one line synopsis on each.

Yours sincerely, Andrew Hall.

Thanks Andrew for sparing the time to send in the disc, it has been sent to Mr Quedsted. Ed.

Dear Editor,

I am a proud (well sort of) SAM Coupé owner and have been subscribing to FORMAT (the best sail order magazine for the Spectrum and SAM) for the best part of twelve months now. I am presently doing my A'levels and find the magazine very interesting reading. However there are a few suggestions I might make; Perhaps you could put in a few more previews of software games (such as PARALLAX and BOING!) on the SAM to keep the rare breed of SAM Coupe owners going. And, even though your coverage of the West Coast rescue plan has been good, perhaps you could print a small cut out leaflet (not that I would want to deface any FORMAT magazine) so that we could send donations to help SAM get back on its feet.

I think over the next few months REVELATION could use a bit of Advertising and where better than in the best selling magazine FORMAT, to whom I pledge my allegiance for a further 12 months.

I hope the rescue plan goes well and that the SAM and Spectrum thrive for many hundreds of years to come.

P.S. Do you still sell the SPI, because the sales were not in the October edition.

Yours sincerely, Roarke Batten.

Software for the SAM COUPE

£12.50 SC ASSEMBLER

If you have been reading the much praised article in the Format magazine 'Machine Code Without The Tears' by :- Carol Brooksbank and are new to the fascinating world of Machine code.

SC_ASSEMBLER is the ideal program to help you, thanks to the unique automatic autotab editor designed to help the absolute beginner.

Review in 'Outlet' Issue 53 Jan 92 "Simple enough for the beginner powerful enough for the expert".

Format vol13 no12 "A delight to use, it's certainly the one for me".

Highly recommended by Carol Brooksbank

£12.50 SC FILER

A POWERFUL SAM COUPE DATABASE

99% Machine code. Data compressed to allow massive storage of data. You can set up the database to your exact requirements, with fields of any size position, colour and charset in 4 different Mode 4 layouts and printouts.

Review in 'Sam Supplement' Issue 7 "Very versatile userfriendly database" 'Outlet' Issue 47 "Most professional looking file management program".

'Enceladus' Issue 7 "definitive filing system, if you need to file anything but this". 'Fred' Issue 9/14 "I would recommend you buy SC_FILER" 'Excalibur' no3 "Best Database around 94%".

£15.00 SC MONITOR

SC_MONITOR is an essential utility to use with an Assembler to help understand, debug machine code programs.

Single step each opcode to see what it does and the effects it has on flags, registers, memory and screen. Various special types of breakpoints will help pinpoint bugs and resets in programs. Unlike other monitors incl CP/M, this monitor copes with all opcodes, paging types on SAM without crashing.

There is also a super fast intelligent disassembler. SC_MONITOR comes with a large, comprehensive and easy to use manual with examples to help beginners

£15.00 SC AUTOBOOT

SC_AUTOBOOT is a new exciting chip for the Coupe. When you now turn on the power to the Coupe with a disc already in the drive, (disc will not corrupt) the DOS will immediately BOOT up.

Retns back to basic if no disc in drive. No need to eject disc, turn on power, wait 3 secs, insert disc and press F9.

Remains 100% compatible with the most up to date ROM 3.0 chip, which software companies guarantee software to work with 100%. The chip also has a powerful reset button to Break into any program running. The chip is easy to fit with an easy to follow manual.

£2.50 SC PD3

A Completion of SC_PD1 (Specions-Spectrum emulator, Disc Utility, Screen Compressor 1) SC_PD2 (Screen Compressor 2), also included as a Bonus SC_DISCLONE, a super exact clone disc copier.

MORE INFO

Just send a blank formatted disc & a SAE for Demos/Screen Shots/Detailed Information on current software from STEVES SOFTWARE

FAST ORDERS

If you need any of the above items quickly, then just phone from 6pm-9pm, your order will then be despatched first thing next morning, when goods reach you, just send a cheque or postal order for invoiced items.

DUST COVERS

High Quality Dustcovers, Pure White with Blue Rim Trimming, Waterproof, Machine Washable, Non Shrink, Non Fade

£5.50 SAM COUPE

£6.50 PRINTERS

£7.50 MONITORS

If Ordering Printer or Monitor cover Please state Model.

STEVE'S SOFTWARE is a member of TEAM

STEVES SOFTWARE

7 NARROW CLOSE

HISTON

CAMBRIDGE

CB4 4XX

TEL 6pm-9pm

0223 235150

Special Offer Buy SC Assembler+Monitor For £28 save £3.50. Upgrade from Assembler to SC_Monitor £12

From the top, we are planning a games supplement for FORMAT but I can't say when that will be ready (anyone interested in writing reviews should give me a ring). But as I have always promised - no games reviews in FORMAT itself.

Donations are very welcome, just send cheques made out to WEST COAST FUND 2 to us and we will pass them on. West Coast are also looking for investors, from £500 up, to help finance the development of new hardware. The investment terms are very favorable, so if anyone wants details please give us a ring.

I had to drop the FRS page from last months because we needed to put so many extra items into the envelope. Its back this month. Ed.

Dear Editor,

Sorry for including a letter with the order, but I thought you should know that it isn't the banks fault about the cheques, but the Law. The cheques Act of 1992 closed a loophole in the law that allowed ANY cheque to be paid into ANY account. It was introduced to protect the consumer. People could "sign" the name of the payee on the back of any cheque, and then pay it into any account.

The new law means that any cheque with the words (i) Pay "payee" only ("or order" not present), (ii) Crossed Payee only, (iii) Crossed account payee only, (iv) Crossed not negotiable may only be paid into the named account. Similarly, a cheque is not acceptable if alterations are INITIALED, they should be SIGNED with the full SIGNATURE. Again, fraudsters could steal cheques, make alterations and just initial them, which anyone can do, and defraud the consumer of money. A few years ago a bag of mail to Barclaycard was stolen, they were altered to read B.A.R. Clay-card, and initialed, signed on the back, and paid into a "Stooge" account.

If you have a cheque book with the new wording, there are two solutions. (i) Cross out "payee only" and SIGN THE ALTERATION or (ii) If being paid into a Building Society investment account, then make the cheques payable

to the Building Society.

I hope that this makes it clear, I found out from our bank, as I am the treasurer of two Sheffield University Societies, and we were worried also. Once its explained it makes sense, and the only person to gain is the consumer, as if the bank accept an altered, or endorsed cheque, without the law being adhered to, the bank has to make a refund.

Yours sincerely, Stephen Baines.

Wrong Stephen, it is not the law's fault but the banks. They used the loop-hole in the old law to wriggle out of their responsibility to their customers. Their reaction has been to further inconvenience people, the vast majority of whom are perfectly honest. When I first opened a bank account after leaving school I had to give two personal references (both had to hold bank accounts), an employer's reference, and I needed to prove residence at my address for at least 12 months. It then took the bank 14 days before they would issue me with a cheque book etc. Now you just walk in off the street and the account is open - that is what has led to the large increase in fraud.

Just to illustrate the difficulty this stupid action is causing, I needed to send a birthday gift to a nephew (aged 14). I still insist my bank gives me normal crossed cheques so I was able to send him some money that way, addressing the cheque to him personally. Now he cashed it was then up to him, but if I just blindly accept the banks lax way either I or my nephew would be inconvenienced.

And don't think altering the cheque will do any good - from early next year ANY ALTERATION on a cheque will render it invalid - another sign of the banks thinking about their customers? Ed.

Dear Editor,

Thank you for the information on the Hotline recently, I have since bought a Star LC20 printer and now need an interface to get cracking, hence the enclosed order.

While I have pen to paper, I should like to say how much I enjoy **FORMAT**: at the moment the ingredients are just right. Keep up the good work!

Yours sincerely, E.S.Small.

Dear Editor,

My usual thanks for "FORMAT" which I look forward to each month.

Vol 5 No 12 Aug '92 says you've taken over Sinclair & Sam Computing. Excellent.

I had many calls to Daniel Garner, he was always pleasant and full of excuses.

My only purpose, (having a ZX Spectrum 48K PLUS) was to get the booklets on PCG's DTP.

I received Part 1 & 2, and it was very good. Part 3 was missed from Issue 5 and it was promised with Part 4 in the issue 6 planned for March/May and never produced.

I do hope you can winkle out these parts from Daniel and either a) Start again from Part 1 in **FORMAT**. b) Issue separately the missing parts under **FORMAT** Publications. I never was able to find out whether the complete set was indeed the Parts 1 to 4.

I and others have been let down on our sub to S&SC, nevertheless that's water under the bridge now. The idea of putting some order into the somewhat puzzling manual of PCG DTP suite was great. Reluctantly, but necessarily, if you republish I'll buy it all again. Perhaps a small discount to S&SC subscribers? Best wishes, keep **FORMATTING**.

Yours sincerely, C.Leslie Pollard.

Well Les, under the contract with Garner Designs we have the rights to all the mags and to any unpublished items. However getting them out of him is quite another matter.

Dear Editor,

Could I just use a little space in your letters section to pass on the following information.

There is a potential problem with the batch file that installs the PC

Spectrum Emulator. It appears that not everyone has the A: drive in their **PATH** command. This means that the batch file that is supposed to extract **SPEC145.ARJ** and **PROGS.ARJ** cannot find the **ARJ.EXE** archive program, and the files remain on the A: drive in their archives.

The way round this is to put the emulator disc in drive A: and then type:-

COPY A:ARJ.EXE C:ARJ.EXE <RETURN>

Once this is done log on to drive A: and type **RUN <RETURN>** as it says on the label. All files should then be extracted to the directory **/EMUL**.

This applies to both the registered and unregistered versions. It just goes to show that you can't assume everyone has the same setup as you.

Yours, Brian Gaff, B.G.Services.

Letters may be shortened or edited to fit on these pages.

This is **YOUR** letters page so it is up to you, our readers, to fill it. Keep letters as short as you can so we can fit in as many as possible.



'Are you well enough to sign cheques yet Maurice?'

SOFTWARE

SAM Coupé SOFTWARE - On 3½" Disc

SAM DEMO DISC #1 Utilities, demos, screens, a game, and lots more. A real bargain for any SAM owner.
Order Code SCD-02 Price £1.50

SAMCO NEWSDISC SET Issues 1 to 5 (six discs) packed with things no SAM owner should miss.
Order Code SCD-03 Price £12.00

SAMSPEC SOFTWARE

SAM + Spectrum software on one disc. (3½" or 5¼" - please state on order)

FONT LIBRARY #1, 100 screen fonts plus support software, easy to use on either computer. Special +3 disc available (Spectrum files only)
RRP £8.95
Order Code SSD-01 Price £6.95

MONEY MANAGER Advanced Personal Budgeting System for both machines, Spectrum version needs 128k/+2 (not +3/+2a). RRP £15.95
Order Code SSD-02 Price £12.95

DISCIPLE/PLUS D SOFTWARE

Please state 3½" or 5¼" disc

ARTIST 2 The best art package ever written for the Spectrum. 48K and 128K versions on the same disc with page maker and utility software. RRP £19.95
Order Code SPD-01 Price £16.95

UTILITY DISC #1, Six of the best and most useful disc utilities for **DISCIPLE** or **PLUS D**. Added bonus program - not to be missed. RRP £9.95
Order Code SPD-02 Price £6.95

HARDWARE

PRINTER LEAD Top quality parallel printer lead (BBC Standard). 2 meters long. For use with **DISCIPLE**, **PLUS D** or **SAM**. RRP £9.95
Order Code PPL-01 Price £7.95

SAM COUPE TECHNICAL MANUAL Version 3

The real inside info on SAM. As published by SAMCO. RRP £16.99
Order Code STM-01 Price £12.95

FORMAT

READERS SERVICES

SPI, - SAM's Parallel Interface A full feature Parallel Printer Interface. Totally compatible with SAM's ROM and DOS printing routines and with utility programs like **FLASH** and **TASWORD 2**. The SPI has the added advantage of being **BI-DIRECTIONAL** so allowing information to be read into your Coupé from almost ANY other computer. Uses standard BNC lead (see below). RRP £21.95
Order Code SPI Price £15.95

SAM POWER SUPPLY Full spec, fully tested, with guarantee. RRP. £29.95
Order Code SPS Price £22.95

FORMAT BACK-ISSUES

Volumes 1, 2 and 3 of **FORMAT** now available only as complete volumes.
Order Code FBI-V1 (Vol.1) Price £10.00
Order Code FBI-V2 (Vol.2) Price £12.00
Order Code FBI-V3 (Vol.3) Price £12.00
All issues, from Volume 4 No 1 to the latest issue, are still available separately. To order quote the Volume/Issue No. Price £1.50 each, (5 or more £1.25 per copy)

FORMAT BINDERS

Hardcover binders to protect your valuable magazines. Each will hold 12 issues, easy to insert/remove.
Order Code FMB-01 Price £4.50

ORDERING

All prices include UK Postage and Packing. Overseas readers please add 10% to total order for extra postage. Please **WRITE YOUR ORDER ON A PIECE OF PLAIN PAPER**, and mark envelope **ORDER**.

Clearly state Order Code; Title; Quantity required; price & add any postage as above. Remember to quote your membership number or we can't send out your order. Payment in **STERLING** by Cheque (UK bank), P.O. Euro Cheques or Cash. Note cheques payable to **FORMAT**. Payment **MUST** accompany order. Please allow 28 days for dispatch. **FORMAT** Publications will not be held liable for delays or non-delivery due to circumstances beyond its control.